

INTERNATIONAL  
REGISTERED ITEM  
CLASS: CGM PROFILE

ISO/IEC  
SAMI PROFILE  
SPCGM01.00

Version 1.0

**-Information Technology-  
-Computer Graphics, Image Processing and  
Environmental Data Representation-  
-Registered Item-  
-Class: CGM Profile-**

Symbology and Annotation for Maps and Imagery (SAMI)  
Profile for Computer Graphics Metafile  
Version 01.00  
(SPCGM01.00)

19 February 2008

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## Foreword

The International Standard, ISO/IEC 8632, Information technology -- Computer graphics -- Metafile for the storage and transfer of picture description information, commonly known as Computer Graphics Metafile (CGM), provides guidance for creating profiles of the standard. The following CGM profile is submitted for international registration:

SPCGM01.00

### Symbology and Annotation for Maps and Imagery (SAMI)

**Informative Note:** Historically, an International Standardized Profile (ISO/IEC 12071-1) was developed to provide profiles for the Computer Graphics Metafile. At present, four profiles have been previously established as ISPs. They are: Basic Scientific and Technical Graphics (BST), Advanced Scientific and Technical Graphics (AST), Basic Presentation and Visualization (Model Profile), and Advanced Presentation and Visualization (APV).

The SPCGM01.00 is not a part of ISO/IEC 12071-1; it is submitted as a registered item under the procedures of ISO/IEC 9973, "Computer graphics and image processing - Procedures for registration of items."

This profile was developed within an Accredited Standards Committee of ANSI, the InterNational Committee for Information Technology Standards (INCITS), in collaboration with JTC1/SC24, the committee with responsibility for computer graphics, image processing and environmental data representation, and the developer of the CGM standard.

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## **Introduction**

ISO/IEC SPCGM01.00 is defined within the context of the CGM Profile Class of registration items in accordance with the principles specified in ISO/IEC 9973, “Computer graphics, image processing and environmental data representation – Procedures for registration of items”.

ISO/IEC SPCGM01.00 was developed within the ANSI InterNational Committee for Information Technology Standards (INCITS). Input to the process was also made by JTC1/SC24 who provided CGM expertise.

ISO/IEC SPCGM01.00 provides a profile suitable for displaying graphical symbols that conform to the Digital Geographic Information Exchange Standard (DIGEST) Feature Attribute Coding Catalog (FACC) coding scheme as defined in National Geospatial-Intelligence Agency's (NGA's) Vector Product Format (VPF) specifications.

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# **Information Technology -- Computer Graphics, Image Processing, and Environmental Data Representation**

## **Registered Item, Class: CGM Profile**

### **Symbology and Annotation for Maps and Imagery (SAMI) Profile for Computer Graphics Metafile Version 01.00 (SPCGM01.00)**

#### **1 Scope**

##### **1.1 General**

The Computer Graphics Metafile (CGM) provides a file format suitable for the storage and retrieval of picture information. The file format consists of a set of elements that can be used to describe pictures in a way that is compatible between systems of different architectures and devices of differing capabilities and design.

The SAMI profile for CGM (ISO/IEC SPCGM01.00) defines a subset of CGM elements, sets limits and generation and interpretation behavior according to the rules for profile definition defined in ISO/IEC 8632. The SAMI profile defines a version 4 CGM suitable for use in symbolizing digital map symbology and annotation.

##### **1.2 Position within the Graphical Item Register**

SAMI is a single profile customized to digital imagery and map symbology and annotation defined within the taxonomy for CGM profiles.

The graphical item registration information is as follows:

Graphical Item Class: CGM Profile

Graphical Item Long Name: Symbology and Annotation for Maps and Imagery (SAMI) Profile for computer Graphics Metafile, Version 01.00

Graphical Item Short Name: SPCGM01.00

Sponsoring Authority: InterNational Committee for Information Technology Standards (INCITS)

Preparing Authority: National Geospatial-Intelligence Agency ((NGA)  
National Center for Geospatial Intelligence Standards (NCGIS)

### **1.3 User Requirements and Scenario**

ISO/IEC ISP SPCGM01.00 provides a profile, SAMI, which has limited capability and is suited to the basic requirements for symbolizing map displays from digital vector data.

## **2 Normative References**

The following documents contain provisions that, through reference in this text, constitute provisions of this profile. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this International Standardized Profile are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by profiles to such documents is that they may be specific to a particular edition. Members of IEC and ISO maintain registers of currently valid International Standards and associated profiles.

ISO/IEC 8632-1:1999, *Information technology - Computer Graphics - Metafile for the storage and transfer of picture description information, Part 1: Functional Specification*

ISO/IEC 8632-3:1999, *Information technology - Computer Graphics - Metafile for the storage and transfer of picture description information, Part 3: Binary Encoding*

ISO/IEC 8632-4:1999, *Information technology - Computer Graphics - Metafile for the storage and transfer of picture description information, Part 4: Clear Text Encoding*

ISO/IEC 9973:2006, *Information Technology - Computer Graphics, image processing and environmental data representation- Procedures for registration of items*

## **3 Definitions**

For the purposes of this part of ISO/IEC SPCGM01.00 the definitions given in ISO/IEC 8632:1999 apply.

## **4 Abbreviations**

For the purposes of this part of ISO/IEC SPCGM01.00 the abbreviations given in ISO/IEC 8632:1999 apply.

## **5 Conformance**

Conformance of metafiles to ISO/IEC 8632 is defined in terms of conformance to profiles. A metafile conforms to ISO/IEC 8632 if it conforms to a profile. A metafile may conform to ISO/IEC 8632 if it conforms to the SPCGM01.00 profile.

## **6. Profile Registration**

This profile is registered through the ISO/IEC process found in ISO/IEC 9973. Proforma tables from ISO/IECC 8632 and associated “Rules for profiles” were used to define the SPCGM01.00.

## 7 Specification of the SAMI Profile

**7.1 CGM Element Defaults.** The CGM implementation for SAMI shall assume the following CGM default values for input/output per Table 1. This is simply a statement of the “starting state” for creation of CGMs.

**TABLE 1. CGM element defaults for input/output.**

ELEMENT	DEFAULT VALUE	REQUIRED IN FILE CREATION
VDC TYPE:	16 BIT INTEGER	O
INTEGER PRECISION:	16 BIT INTEGER	O
INDEX PRECISION:	16 BIT INTEGER	O
COLOUR PRECISION:	8 BIT INTEGER	O
TRANSPARENCY:	ON	O
LINE TYPE:	1 (SOLID)	R3
TEXT PRECISION:	STRING	O
CHARACTER EXPANSION FACTOR	1.0	O
CHARACTER SPACING:	0.0	O
CHARACTER ORIENTATION:	0, 1, 1, 0	R1
TEXT PATH:	RIGHT	O
TEXT ALIGNMENT:	NORMAL HORIZONTAL, NORMAL VERTICAL	O
INTERIOR STYLE:	HOLLOW (EMPTY)	R2
EDGE TYPE:	SOLID	R2
EDGE VISIBILITY:	OFF	R2
LINE COLOUR:	DEVICE-DEPENDENT FOREGROUND COLOUR	R3
EDGE COLOUR:	DEVICE-DEPENDENT FOREGROUND COLOUR	R2
FILL COLOUR:	DEVICE-DEPENDENT FOREGROUND COLOUR	R2

**TABLE 1. CGM element defaults for input/output.**

ELEMENT	DEFAULT VALUE	REQUIRED IN FILE CREATION
TEXT COLOUR:	DEVICE-DEPENDENT FOREGROUND COLOUR	R1
BACKGROUND COLOUR:	NONE (THIS IS SAMI SPECIFIC)	O
COLOUR VALUE EXTENT:	0, 0, 0 - 255, 255, 255	O
VDC INTEGER PRECISION:	16 BIT INTEGER	O
TEXT FONT INDEX:	1	R1
Colour Index Precision	8	O
Character Set Index	1	O
Auxiliary Colour	Device Dependent Auxiliary Colour	O
Line Width	2	R3
Character Height	21	R1
Edge Width	2	R2
Colour Selection Mode	Direct	R
Line Width Specification Mode	Absolute	R
Edge Width Specification Mode	Absolute	R

O-Optional, R- Always Required, R1- Required when text elements present, R2- Required when filled primitives present, R3- Required when line primitives present.

**7.2 SAMI Supported Font Names For Output.** The CGM implementation for SAMI shall limit the font name in the Font List element to the list shown in Table 2, SAMI Support Font Names for Output.

**TABLE 2. SAMI Supported Font Names for Output.**

**FONT NAME**  
HERSHEY/CARTOGRAPHIC\_ROMAN  
HERSHEY/CARTOGRAPHIC\_GREEK  
HERSHEY/SIMPLEX\_ROMAN  
HERSHEY/SIMPLEX\_GREEK  
HERSHEY/SIMPLEX\_SCRIPT

**TABLE 2. SAMI Supported Font Names for Output.****FONT NAME**

HERSHEY/COMPLEX\_ROMAN

HERSHEY/COMPLEX\_GREEK

HERSHEY/COMPLEX\_SCRIPT

HERSHEY/COMPLEX\_ITALIC

HERSHEY/COMPLEX\_CYRILLIC

HERSHEY/DUPLEX\_ROMAN

HERSHEY/TRIPLEX\_ROMAN

HERSHEY/TRIPLEX\_ITALIC

HERSHEY/GOTHIC\_GERMAN

HERSHEY/GOTHIC\_ENGLISH

HERSHEY/GOTHIC\_ITALIAN

TIMES\_ROMAN

TIMES\_ITALIC

TIMES\_BOLD

TIMES\_BOLD\_ITALIC

HELVETICA

HELVETICA\_OBLIQUE

HELVETICA\_BOLD

HELVETICA\_BOLD\_OBLIQUE

COURIER

COURIER\_BOLD

COURIER\_ITALIC

COURIER\_BOLD\_ITALIC

### 7.3 Completed Profile Pro Forma

This clause completes the Profile Pro Forma from ISO/IEC 8632-1 Annex I as required by the standard and is detailed in the following tables which are copied, including the table numbers, from that standard. The corrections that have been approved by ISO are included in the tables. The references in the pro forma are to ISO/IEC 8632-1.

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T.26.7	Semantic latitude	See entry T.26.7	
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T.27.3.1	Line Width	Required if Line Style is present	
T.27.3.2	Line Color	Required if Line Style is present	
T.27.3.3	Start Anchor	Required if Line Style is present	
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<u>TABLE</u>	<u>FUNCTIONALITY</u>	<u>SUMMARY SPECIFICATION</u>	<u>PAGE</u>
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T.27.6.3	Date	Permitted	
T.27.6.4	Description	Permitted	
T.27.6.5	Color	Permitted	
T.27.6.6	Visibility	Permitted	

**Table 13 - Metafile rules**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.13.1	Same as Model Profile <b><u>NO</u></b>	
	Encodings	Select 1 or more encodings: Binary <b><u>YES</u></b> Clear text <b><u>NO</u></b>	Select 1 or more encodings: Binary <b><u>YES</u></b> Clear text <b><u>YES</u></b>
	T.13.2	Same as Model Profile <b><u>NO</u></b>	
	Number of pictures	Number of pictures permitted in a metafile: minimum (> 0)? <b><i>I.</i></b> maximum (> 0 or no limit)? <b><i>I.</i></b> Other: <b><i>None.</i></b>	Number of pictures permitted in a metafile: minimum (> 0)? <b><i>I.</i></b> maximum (> 0 or no limit)? <b><i>No limit.</i></b> Other: <b><i>None.</i></b>
	T.13.3	Same as Model Profile <b><u>NO</u></b>	
	Empty pictures	Are pictures allowed which have no graphical primitives? (yes/no) <b>No.</b> Other: <b>None.</b>	Are pictures allowed which have no graphical primitives? (yes/no) <b>Yes.</b> Other: <b>None.</b>
	T.13.4	Same as Model Profile <b><u>NO</u></b>	
	Metafile size	Any restrictions on metafile size? <b><i>Yes.</i></b> Other: <b><i>1MB (1,048,576 bytes)</i></b>	Any restrictions on metafile size? <b><i>None.</i></b> Other: <b><i>None.</i></b>

**Table 14 - Multi-element rules**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.14.1  Colour  References 9.5.4.1	<p>Same as Model Profile <b><u>NO</u></b></p> <p>Select which rule applies to each metafile (choose 1):            Either all colours or none shall be defined. <b><u>NO</u></b>            All colours shall be defined. <b><u>YES</u></b>            No colours shall be defined. <b><u>NO</u></b></p> <p>Are colour indexes all allowed to be redefined within a picture or metafile? (yes/no) <i>No.</i></p> <p>Any restrictions on the number of distinct colours used within a picture or metafile? (Monochrome metafiles shall use at most two distinct colours.) <i>None.</i></p> <p>Are conformance categories defined? (yes/no) <i>Yes.</i>            If yes, specify. <i>Colour 8 bit RGB only.</i></p> <p>Other: <i>None.</i></p>	
	T.14.2  Line primitives - geometric degeneracies  References 9.5.4.3	<p>Same as Model Profile <b><u>NO</u></b></p> <p>Geometric degeneracies are: Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>If permitted, graphical meaning of the degeneracy:</p> <p>Other:</p>	<p>Geometric degeneracies are: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>If permitted, graphical meaning of the degeneracy: <i>A line primitive element, whose entire locus is a single point, denotes a graphical dot which is a filled circle, with diameter equal to the current line width and colour equal to the current line colour.</i></p> <p>Other: <i>None.</i></p>

**Table 14 - Multi-element rules (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.14.3  Filled area primitives - geometric degeneracies  References 9.5.4.4	Same as Model Profile <b><u>NO</u></b>  Geometric degeneracies are: Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> If permitted, graphical meaning of the degeneracy:  (see error processing T.25.7)  Other:	<b>Geometric degeneracies are: Permitted <u>YES</u> Prohibited <u>NO</u></b> If permitted, graphical meaning of the degeneracy: <i>A filled-area primitive element, whose entire locus is either a single point or a line has the following meaning:</i> - <i>If the locus of a filled-area primitive is a single point, then the meaning is a dot (which is a filled circle).</i> - <i>If the locus of a filled-area primitive is a non-degenerate line segment, then the meaning is a line.</i> <i>The dot or line is displayed with the fill colour if EDGE VISIBILITY is 'off', unless INTERIOR STYLE is 'empty', in which case it is not rendered. If EDGE VISIBILITY is 'on', the interior treatment is the dot or line displayed in the fill colour, and then a dot or line superimposed with the current edge attributes.</i>  Other: <i>None.</i>
Text will not be used in GeoSym	T.14.4  Graphical text strings  References 9.5.4.5	Same as Model Profile <b><u>YES</u></b>  Minimum string length (bytes):  Maximum string length (bytes):  Any restrictions on the use of ISO/IEC 2022 switching controls?  Other:	Minimum string length (bytes): <i>0.</i>  Maximum string length (bytes): <i>254.</i>  Any restrictions on the use of ISO/IEC 2022 switching controls? <i>C0 control codes (except NUL and ISO/IEC 2022 switching) are prohibited</i> <i>Any character set used in the metafile which is accessed by ISO/IEC 2022 switching techniques shall be in the Character Set List (defined in this profile).</i> . .  Other: <i>None.</i>

**Table 14 - Multi-element rules (continued)**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.14.5  Non-graphical text strings  References 9.5.4.6	Same as Model Profile <b><u>NO</u></b>  Maximum string length (bytes): for type SF: <i>Begin Picture, Begin Metafile and Metafile Description: 254 bytes</i> <i>font list: 1024 bytes</i> for type SF within type D: N/A  Format effectors and ESC: Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Other C0 control codes (except NUL and ISO/IEC 2022 switching) are prohibited.  Any limits on the set of acceptable character sets? <i>Yes, ISO646 character set [space (32) through tilde (126)]</i>  Any restrictions on the use of ISO/IEC 2022 switching controls? <i>Yes, not permitted.</i>  Other: <i>None.</i>	<b>Maximum string length (bytes):</b> for type SF: 254. for type SF within type D: 1024.  Format effectors and ESC: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Other C0 control codes (except NUL and ISO/IEC 2022 switching) are prohibited.  Any limits on the set of acceptable character sets? <i>The permitted character sets are ISO 8859-1 LHS No. 1 and ISO 8859-1 RHS No. 1.</i>  Any restrictions on the use of ISO/IEC 2022 switching controls? <i>Any character set used in the metafile which is accessed by ISO/IEC 2022 switching techniques shall be in the character set list (defined in this profile).</i>  Other: <i>None.</i>
Text will not be used in GeoSym.	T.14.6  Data record strings  References 9.5.4.7	Same as Model Profile <b><u>YES</u></b>  Maximum string length (bytes) or state (no limit):  SDR-coding techniques must be used (see annex C.2.2).  Other:	<b>Maximum string length (bytes) or state (no limit): 32767.</b>  SDR-coding techniques must be used (see annex C.2.2).  Other: <i>None.</i>

**Table 15 - Delimiter elements**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.15.0  no-op [v1]  References Part 3 8.2	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted: <b><u>YES</u></b>  The parameter value of this element is encoding dependent This element is applicable only to binary encoding. It shall be included in the profile only if binary encoding is permitted or required.  If binary encoding is permitted, is the element Required <b><u>NO</u></b> Permitted: <b><u>YES</u></b> if permitted, are there any restrictions on the parameter value?  Other: <i>None.</i>	<b>Element is: Required <u>NO</u> Permitted: <u>YES</u></b>  The parameter value of this element is encoding dependent This element is applicable only to binary encoding. It shall be included in the profile only if binary encoding is permitted or required.  If binary encoding is permitted, is the element Required <b><u>NO</u></b> Permitted: <b><u>YES</u></b> if permitted, are there any restrictions on the parameter value? <b>None.</b>  Other: <i>None.</i>
	T.15.1  BEGIN METAFILE  END METAFILE [v1]  References 7.2.1 7.2.2 9.5.4.6 T.14.5	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>YES</u></b>  The <i>metafile identifier</i> shall follow the rules for non-graphical text. clause 9.5.4.6 and T.14.5.  Other:	<b>Element is: Required <u>YES</u></b>  The <i>metafile identifier</i> shall follow the rules for non-graphical text. clause 9.5.4.6 and T.14.5.  Other: <i>None.</i>

**Table 15 – Delimiter elements (continued)**

Remarks	Element	Specifications – PPF	Specifications – Model Profile
	T.15.2	Same as Model Profile <b>NO</b>	
	BEGIN PICTURE BEGIN PICTURE BODY END PICTURE [v1] References 7.2.3 7.2.4 7.2.5 9.5.4.6 T.14.5	Element is: Required <b>YES</b> Permitted <b>NO</b> Prohibited <b>NO</b>  The picture identifier shall follow the rules for non-graphical text. clause 9.5.4.6 and T.14.5  Number of occurrences of these elements allowed in the metafile: <i>I</i> .  Other: <i>None</i> .	Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  The picture identifier shall follow the rules for non-graphical text. clause 9.5.4.6 and T.14.5  Number of occurrences of these elements allowed in the metafile: <i>No limit</i> .  Other: <i>None</i> .
	T.15.3	Same as Model Profile <b>NO</b>	
	BEGIN SEGMENT END SEGMENT [v2] References 7.2.6 7.2.7	Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Maximum number of simultaneously defined segments (both global and local) at any point in the metafile: . Any limits on the number of elements or restrictions on which elements compose a segment?  Is there any meaning given to the <i>segment identifier</i> parameter? (yes/no) If yes, specify. (Meaning shall have no graphical effect.)  Other:	Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Maximum number of simultaneously defined segments (both global and local) at any point in the metafile: <i>1024</i> . . Any limits on the number of elements or restrictions on which elements compose a segment? <i>None</i> .  Is there any meaning given to the <i>segment identifier</i> parameter? (yes/no) <i>No</i> . If yes, specify. (Meaning shall have no graphical effect.)  Other: <i>When global segments are specified in the Metafile Descriptor, all global segment definitions shall follow all other Metafile Descriptor elements. When segments are specified in the Picture Descriptor, all such segment definitions shall follow all other Picture Descriptor elements.</i>

Table 15 - Delimiter elements (continued)

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.15.4  BEGIN FIGURE  END FIGURE [v2]  References 7.2.8 7.2.9	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Limits on the number of elements or restrictions on which elements comprise a figure definition:  Other:	  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Limits on the number of elements or restrictions on which elements comprise a figure definition: <i>Maximum number of elements = 128. No restrictions on which eligible elements may be included.</i>  Other: <i>None.</i>
	T.15.5  BEGIN PROTECTION REGION  END PROTECTION REGION [v3]  References 7.2.10 7.2.11	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Maximum number of simultaneously defined protection regions:  Maximum number of elements within each protection region:  Is there any meaning to the <i>region index</i> parameter other than as a unique identifier for each protection region? (yes/no) If yes, specify. (Meaning shall have no graphical effect.)  Other:	  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Maximum number of simultaneously defined protection regions: 32.  Maximum number of elements within each protection region: 128.  Is there any meaning to the <i>region index</i> parameter other than as a unique identifier for each protection region? (yes/no) <i>No.</i> If yes, specify. (Meaning shall have no graphical effect.)  Other: <i>None.</i>
	T.15.6  BEGIN COMPOUND LINE  END COMPOUND LINE [v3]  References 7.2.12 7.2.13	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Limits on the number of elements and identity of elements comprising a path definition:  Other:	  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Limits on the number of elements and identity of elements comprising a path definition: <i>Maximum number of elements is 128. No restrictions on which eligible elements may be included.</i>  Other: <i>None.</i>

Table 15 - Delimiter elements (continued)

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.15.7  BEGIN COMPOUND TEXT PATH  END COMPOUND TEXT PATH [v3]  References 7.2.14 7.2.15	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Limits on the number and identity of elements comprising a path definition:  Other:	<b>NO</b>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Limits on the number and identity of elements comprising a path definition: <i>Maximum number of elements is 128. No restrictions on which eligible elements may be included.</i>  Other: <i>None.</i>
	T.15.8  BEGIN TILE ARRAY  END TILE ARRAY [v3]  References 7.2.16 7.2.17	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Maximum number of tiles in path direction:  Maximum number of tiles in line direction:  Maximum number of cells/tile in path direction:  Maximum number of cells/tile in line direction:  Limits on pel path:  Limits on line progression:  Limits on image offset:  Other:	<b>NO</b>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Maximum number of tiles in path direction: <i>16.</i>  Maximum number of tiles in line direction: <i>16.</i>  Maximum number of cells/tile in path direction: <i>1024.</i>  Maximum number of cells/tile in line direction: <i>1024.</i>  Limits on pel path: <i>None.</i>  Limits on line progression: <i>None.</i>  Limits on image offset: <i>None.</i>  Other: <i>None.</i>

**Table 15 - Delimiter elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.15.9  BEGIN APPLICATION STRUCTURE  BEGIN APPLICATION STRUCTURE BODY  END APPLICATION STRUCTURE [V4]  References: 7.2.18 7.2.19 7.2.20	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Limits on the maximum number of defined structures within a picture: Unlimited. See Table 27 for definition of allowed structures  Limits on the number and identity of elements comprising a structure: None  Is there any meaning to the application structure identifier parameter? No  If yes, specify.  Is the inheritance flag parameter restricted: No  Other: <i>Yes. STATE LIST only</i>	Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Limits on the number of defined structures within a picture: None.  Limits on the number and identity of elements comprising a structure: None.  Is there any meaning to the application structure identifier parameter? yes/no No. No assigned meaning beyond being a unique identifier for the application structure.  If yes, specify.  Is the inheritance flag parameter restricted? yes/no <i>No</i> .  Other: <i>None</i> .

**Table 16 - Metafile descriptor elements**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
Use of Version 4 CGM elements will be required for complex lines	T.16.1	Same as Model Profile <b><u>YES</u></b>	
	METAFILE VERSION [v1] References 7.3.1	Element is: Required <b><u>YES</u></b>  Metafile versions permitted by this profile: <i>1,2,3,4</i>  Other: <i>None</i>	Element is: Required <b><u>YES</u></b>  Metafile versions permitted by this profile: <i>1, 2, 3,4</i>  Other: <i>None.</i>
	T.16.2	Same as Model Profile <b><u>NO</u></b>	
	METAFILE DESCRIPTION [v1]  References 7.3.2 9.5.2.1 9.5.2.2 9.5.4.6 T.14.1 T.14.5	Element is: Required <b><u>YES</u></b>  The <i>description</i> parameter shall follow the rules for non-graphical text, clause 9.5.4.6 and T.14.5. The substring within the SF parameter shall be of the form: "keyword:item", where the double quotes are part of the substring.  Maximum number of occurrences of this element? <i>1</i> .  Profile identification (use keyword, "ProfileId:"): <b><i>"ProfileID:SAMI, CGM Version 4, GeoSym Edition 2"</i></b>  Profile edition (use keyword, "ProfileEd:"): <i>N/A</i>  If this profile edition is not given, then the edition defaults to 1.	Element is: Required <b><u>YES</u></b>  The <i>description</i> parameter shall follow the rules for non-graphical text, clause 9.5.4.6 and T.14.5. The substring within the SF parameter shall be of the form: "keyword:item", where the double quotes are part of the substring.  Maximum number of occurrences of this element? <i>Unlimited.</i>  Profile identification (use keyword, "ProfileId:"): <b><i>"ProfileId:Model-Profile"</i></b> .  Profile edition (use keyword, "ProfileEd:"): <b><i>"ProfileEd:1"</i></b> . If this profile edition is not given, then the edition defaults to 1.

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.2 continued METAFILE DESCRIPTION	<p>Additional information content: Metafile colour conformance class, source, and date items shall be encoded as substrings of the <i>description</i> parameter using the keywords: "ColourClass:", "Source:", and "Date:", respectively.</p> <p>ColourClass: Required <b>NO</b> Permitted <b>YES</b> Content:</p> <p>Source: Required <b>NO</b> Permitted <b>YES</b> Content:</p> <p>Date: Required <b>NO</b> Permitted <b>YES</b> Content shall be date of metafile generation. The form and content shall be YYYYMMDD where: YYYY = year (1997) MM = month (01 - 12) DD = day (01 - 31)</p> <p>Other: <i>None</i>.</p>	<p>Additional information content: Metafile colour conformance class, source, and date items shall be encoded as substrings of the <i>description</i> parameter using the keywords: "ColourClass:", "Source:", and "Date:", respectively.</p> <p>ColourClass: Required <b>YES</b> Permitted <b>NO</b> Content: (<i>One of: colour, greyscale, or monochrome</i>).</p> <p>Source: Required <b>YES</b> Permitted <b>NO</b> Content: (<i>Vendor, product, and version</i>).</p> <p>Date: Required <b>YES</b> Permitted <b>NO</b> Content shall be date of metafile generation. <i>The form and content shall be in accordance with ISO 8601:1988.</i></p> <p>Other: <i>None</i>.</p>
	T.16.3	Same as Model Profile <b>NO</b>	
	VDC TYPE [v1]  Reference: 7.3.3	<p>Element is: Required <b>NO</b> Permitted <b>YES</b></p> <p>Any restrictions on the parameter value? <i>Yes, integer only.</i></p> <p>Other: <i>None</i>.</p>	<p>Element is: Required <b>NO</b> Permitted <b>YES</b></p> <p>Any restrictions on the parameter value? <i>None.</i></p> <p>Other: <i>None</i>.</p>
	T.16.4	Same as Model Profile <b>NO</b>	
	INTEGER PRECISION [v1]  References: 7.3.4 Part 3, 8.3 Part 4, 7.2	<p>Element is: Required <b>NO</b> Permitted <b>YES</b></p> <p>The parameter value of this element is encoding dependent.</p> <p>If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>16</b></p> <p>Other: <i>None</i></p> <p>If clear text encoding is permitted, are there any restrictions on the parameter value? N/A</p> <p>Other: <b>None</b></p>	<p>Element is: Required <b>NO</b> Permitted <b>YES</b></p> <p>The parameter value of this element is encoding dependent</p> <p>If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>8,16,32</b></p> <p>Other: <b>None</b></p> <p>If clear text encoding is permitted, are there any restrictions on the parameter value? <b>[-256,255],[-32767,32767],[-32768,32767] or [-2147483648,2147483647].</b></p> <p>Other: <b>None</b></p>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.16.5  REAL PRECISION [v1]  References: 7.3.5 Part 3, 8.3 Part 4, 7.2	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent.  If binary encoding is permitted, are there any restrictions on the Parameter Value? (0,9,23)  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  Other: None	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>(1,16,16) or (0,9,23)</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>-32767, +32767, 4; or</b> <b>-32768, +32767, 10; or</b> <b>-3.4028235E38, +3.4028235E38, 8</b>  <b>Note: The latter two values are the closest approximation, in base 10 clear text, to the REAL PRECISION values allowed in binary encoded CGMs.</b>  <i>Other: None</i>
	T.16.6  INDEX PRECISION [v1]  Reference: 7.3.6	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent.  If binary encoding is permitted, are there any restrictions on the Parameter Value? 16  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  Other: None	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>8, 16, or 32</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>[0,127], [-256,255],[-32767,32767],[-32768,32767] or</b> <b>[-2147483648,2147483647]</b>  <i>Other: None</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.7 COLOUR PRECISION [v1] References: 7.3.7	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent.  If binary encoding is permitted, are there any restrictions on the Parameter Value? 8  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  Other: None	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>8 or 16</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>255 or 65535</b>  <i>Other: None</i>
	T.16.8 COLOUR INDEX PRECISION [v1] References: 5.3.8	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent.  If binary encoding is permitted, are there any restrictions on the Parameter Value? 8  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  Other: None	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>8 or 16</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>127, 255 or 32767</b>  <i>Other: None</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.9  MAXIMUM COLOUR INDEX [v1]  Reference: 7.3.9	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is this element required to be a least upper bound? (yes/no)  Any restrictions on the parameter values?  Other: <i>None</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is this element required to be a least upper bound? (yes/no) <i>No.</i>  Any restrictions on the parameter values? <i>0-1 for monochrome metafiles.</i> <i>0-63 for greyscale metafiles.</i> <i>0-255 for colour metafiles.</i>  Other: <i>None.</i>
	T.16.10  COLOUR VALUE EXTENT [v1]  References: 7.3.10	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>0, 0, 0, 255, 255, 255.</i>  Other: <i>8 bit only.</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
GeoSym will provide an exhaustive list in each cgm of elements that might be used.	T.16.11	Same as Model Profile <b><u>NO</u></b>	
	METAFILE ELEMENT LIST [v1]  References 7.3.11	Element is: Required <b><u>YES</u></b>  Other: <i>Version 4 set, Begin Application Structure, Begin Application Structure Body, End Application Structure, and Application Structure Attribute.</i>  0xFFFF, 0x0006 ; 0x0000, 0x0015 ; 0x0000, 0x0016 ; 0x0000, 0x0017 ; and 0x0009, 0x0001.	Element is: Required <b><u>YES</u></b>  Other: <i>None.</i>
	T.16.12	Same as Model Profile <b><u>NO</u></b>	
	METAFILE DEFAULTS REPLACEMENT [v1]  References 7.3.12	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Is each occurrence of the MDR restricted to defining just one default? (yes/no)  Additional restrictions may be specified in parts 1, 3, and 4 of ISO/IEC 8632.  <i>NOTE - Profile specifications regarding use of MDR shall be consistent with other profile specifications. For example, if a profile restricts metafiles to a single picture, then it makes little sense for the profile to require the MDR element in metafiles.</i>  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is each occurrence of the MDR restricted to defining just one default? (yes/no) <i>No.</i>  Additional restrictions may be specified in parts 1, 3, and 4 of ISO/IEC 8632.  Other: <i>None.</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.13  FONT LIST [v1]  References: 7.3.13 I.2	Same as Model Profile <b>NO</b>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b> This element is required for all metafiles containing graphical text.  Maximum number of fonts in the list: <b>32</b> .  All font indexes referenced in the metafile, including the default (nominally index 1) shall be defined in the FONT LIST element, with font name construction consistent with the rules of ISO/IEC 9541.  List of permitted fonts: <i>See Font List, clause 6.2.</i>          Other:	Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b> This element is required for all metafiles containing graphical text.  Maximum number of fonts in the list: <b>64</b> .  All font indexes referenced in the metafile, including the default (nominally index 1) shall be defined in the FONT LIST element, with font name construction consistent with the rules of ISO/IEC 9541.  List of permitted fonts: <i>Times-Roman            Helvetica-BoldOblique</i> <i>Times-Bold             Courier</i> <i>Times-Italic            Courier-Bold</i> <i>Times-BoldItalic       Courier-Oblique</i> <i>Helvetica               Courier-BoldOblique</i> <i>Helvetica-Bold         Symbol</i> <i>Helvetica-Oblique</i>  <b>NOTE - These font names are trademarked and some are proprietary and copyrighted. Times and Helvetica are registered trademarks of Allied Corporation, the owner of the copyright on the fonts of those names. Metric equivalents of the named fonts may be substituted by interpreters. Times is a serif font. Helvetica is a sans-serif font. Courier is a mono spaced, serif font. The association of character code to glyph which shall be used for each of the fonts and the metrics of the named fonts are contained in clause I.2, annex I.</b>  Other: <i>None.</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.14  CHARACTER SET LIST [v1]  References 7.3.14	<p>Same as Model Profile <b>NO</b></p> <p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>This element is required for all metafiles containing graphical text.</p> <p>Maximum limit for the number of character sets in the character set list: <b>1</b>.</p> <p>Character sets shall be selected from the ISO Registry of Character Sets. This list may be extended by adding profile-defined character sets. List character sets: <b>ISO 646 Character Set</b>.</p> <p>If any of these character sets is of type "complete code", specify the content of the complete code and its associated sequence tail: <b>N/A</b></p> <p>Other: <i>None</i>.</p>	<p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>This element is required for all metafiles containing graphical text.</p> <p>Maximum limit for the number of character sets in the character set list: <b>4</b>.</p> <p>Character sets shall be selected from the ISO Registry of Character Sets. This list may be extended by adding profile-defined character sets. List character sets:  "94-character G-set", 4/2 (ISO 8859-1 LH);  "96-character G-set", 4/1 (ISO 8859-1 RH);  "94-character G-set", 2/10 3/10 (Symbol LH);  "94-character G-set", 2/6 3/10 (Symbol RH);</p> <p>If any of these character sets is of type "complete code", specify the content of the complete code and its associated sequence tail: <i>Not applicable</i>.</p> <p>Other: <i>None</i>.</p>
	T.16.15  CHARACTER CODING ANNOUNCER [v1]  References 7.3.15	<p>Same as Model Profile <b>NO</b></p> <p>Element is: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b></p> <p>Any restrictions on the parameter values?</p> <p>Other:</p>	<p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Any restrictions on the parameter values? <i>Values shall be 'basic 7-bit' and 'basic 8-bit'.</i></p> <p>Other: <i>None</i>.</p>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.16.16  NAME PRECISION [v2]  References: 7.3.16 Part 3, 8.3 Part 4, 7.2	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? 16  Other: None  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  <i>Other:</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>16 or 32</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>[-256,255],[-32767,32767],[-32768,32767] or</b> <b>[-2147483648,2147483647].</b>  <i>Other: None</i>
	T.16.17  MAXIMUM VDC EXTENT [v2]  References: 7.3.17	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>
	T.16.18  SEGMENT PRIORITY EXTENT [v2]  References: 7.3.18	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>
	T.16.19  COLOUR MODEL [v3]  References: 7.3.19	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values?  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>  <b>NOTE - Three colour models have been registered (as of date of publication) in the ISO Register of Graphical Items: RGB-alpha, sRGB, sRGB-alpha</b>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.20  COLOUR CALIBRATION [v3]  References 7.3.20	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Calibration selection values permitted in accordance with the permitted model(s):  If CYMK is permitted, minimum number of grid locations:  Any restrictions on the number of colour lookup table entries, n?  Any restrictions on the number of grid locations, m?  If CYMK is permitted, algorithms for interpolation between grid locations?  Other:	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Calibration selection values permitted in accordance with the permitted model(s): <i>Values 1...6, 9.</i>  If CYMK is permitted, minimum number of grid locations: 3.  Any restrictions on the number of colour lookup table entries, n? <i>None.</i>  Any restrictions on the number of grid locations, m? <i>None.</i>  If CYMK is permitted, algorithms for interpolation between grid locations? <i>None.</i>  Other: <i>None.</i>
	T.16.21  FONT PROPERTIES [v3]  References 7.3.21	Same as Model Profile <b><u>NO</u></b>  Element is : Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values? <i>All defined index and enumerated values of all parameters shall be permitted.</i>  Other: <i>None.</i>

**Table 16 - Metafile descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.16.22  GLYPH MAPPING [v3]  References 7.3.22	Same as Model Profile <b><u>NO</u></b>  Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Subset of AFH registered glyphs which may be referenced:  Maximum number of glyphs which may be defined:  Other:	<b>NO</b>  Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Subset of AFH registered glyphs which may be referenced: <i>None</i> .  Maximum number of glyphs which may be defined: <i>8192</i> .  Other: <i>None</i> .
	T.16.23  SYMBOL LIBRARY LIST [v3]  References 7.3.23	Same as Model Profile <b><u>YES</u></b>  Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Libraries which may be accessed and their encoding rules:  Maximum number of libraries which may be accessed:  Other:	<b>NO</b>  Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Libraries which may be accessed and their encoding rules:  Maximum number of libraries which may be accessed:  Other: <i>NOTE - There are currently no registered symbol libraries.</i>
	T.16.24  PICTURE DIRECTORY [V4]  References: 7.3.24 9.5.4.6 T.14.5	Same as Model Profile <b><u>NO</u></b>  Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Follow rules for non-graphical text strings for <i>picture identifier</i> , clause 9.5.4.6 and T.14.5  If present, shall PICTURE DIRECTORY elements be complete, i.e., have an entry for every picture in the metafile? (yes/no)  If “no” describe any special meaning associated with those entries which appear in PICTURE DIRECTORY elements which are incomplete.  Other:	<b>NO</b>  Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Follow rules for non-graphical text strings for <i>picture identifier</i> , clause 9.5.4.6 and T.14.5  If present, shall PICTURE DIRECTORY elements be complete, i.e., have an entry for every picture in the metafile? (yes/no) <b>Yes</b> .  If “no” describe any special meaning associated with those entries which appear in PICTURE DIRECTORY elements which are incomplete.  Other: <b>None</b>

**Table 17 - Picture descriptor elements**

Remarks (also see above)	Element	Specifications - PPF	Specifications - Model Profile
	T.17.1  SCALING MODE [v1]  References: 7.4.1	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values?  Other:	<b>Element is: Required <u>NO</u> Permitted <u>YES</u> Prohibited <u>NO</u></b>  Any restrictions on the parameter values? <i>If SCALING MODE is metric then the 'metric scale factor' shall be positive.</i>  Other: <i>None.</i>
	T.17.2  COLOUR SELECTION MODE [v1] [v2]  References: 7.4.2	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>
	T.17.3  LINE WIDTH SPECIFICATION MODE [v1] [v2]  References: 7.4.3	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>YES</u></b> Permitted <b><u>NO</u></b>  Any restrictions on the parameter values? <i>Yes, always 0x0000 for "absolute mode".</i>  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.4  MARKER SIZE SPECIFICATION MODE [v1] [v2]  References: 7.4.4	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>
	T.17.5  EDGE WIDTH SPECIFICATION MODE [v1] [v2]  References: 7.4.5	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>YES</u></b> Permitted <b><u>NO</u></b>  Any restrictions on the parameter values? <i>Yes, always 0X0000 for "absolute mode".</i>  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>
	T.17.6  VDC EXTENT [v1]  References: 7.4.6	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Limits on the sense and orientation of the VDC space:  Is zero-area VDC extent permitted? (yes/no). If yes, specify its meaning.  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Limits on the sense and orientation of the VDC space: <i>None.</i>  Is zero-area VDC extent permitted? (yes/no) <i>No.</i> If yes, specify its meaning.  Other: <i>None.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.7  BACKGROUND COLOUR [v1]  References: 7.4.7 9.5.4.1 T.14.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The <i>colour value</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Other: <i>If background color is not included, the default is transparent. If background color is included, it should be used but the VDC shall limit the extent.</i>	<b>Element is:</b> Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The <i>colour value</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Other: <i>None.</i>
	T.17.8  DEVICE VIEWPORT [v2]  References: 7.4.8	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Interaction of this element with environmental presentation directives:  Meaning of this element if the specified value is inconsistent with the presentation device:  Other:	<b>Element:</b> Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Interaction of this element with environmental presentation directives:  Meaning of this element if the specified value is inconsistent with the presentation device:  Other: <i>NOTE - This element is prohibited due to its device dependence.</i>
	T.17.9  DEVICE VIEWPORT SPECIFICATION MODE [v2]  References: 7.4.9	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of legal values:  Other:	<b>Element:</b> Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of legal values:  Other: <i>NOTE - This element is prohibited due to its device dependence.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.10  DEVICE VIEWPORT MAPPING [v2]  References: 7.4.10	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of legal values:  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of legal values:  Other: <i>NOTE - This element is prohibited due to its device dependence.</i>
	T.17.11  LINE REPRESENTATION [v2]  References: 7.4.11 9.5.2.6 9.5.4.2 T.20.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of simultaneous bundle definitions:  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of simultaneous bundle definitions: 20.  Other: <i>None.</i>
	T.17.12  MARKER REPRESENTATION [v2]  References: 7.4.12 9.5.2.6 9.5.4.2 T.20.5	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of simultaneous bundle definitions:  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of simultaneous bundle definitions: 20.  Other: <i>None.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.13  TEXT REPRESENTATION [v2]  References: 7.4.13 9.5.2.6 9.5.4.2 T.20.9	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of simultaneous bundle definitions:  Other:	<b>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></b>  :Maximum number of simultaneous bundle definitions: 20.  Other: <i>None.</i>
	T.17.14  FILL REPRESENTATION [v2]  References: 7.4.14 9.5.2.6 9.5.4.2 T.20.21	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of simultaneous bundle definitions:  Other:	<b>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></b>  Maximum number of simultaneous bundle definitions: 20.  Other: <i>None.</i>
	T.17.15  EDGE REPRESENTATION [v2]  References: 7.4.15 9.5.2.6 9.5.4.2 T.20.26	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of simultaneous bundle definitions:  Other:	<b>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></b>  Maximum number of simultaneous bundle definitions: 20.  Other: <i>None.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.16  INTERIOR STYLE SPECIFICATION MODE [v3]  References: 7.4.16	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restriction on the parameter value?  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  Any restriction on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.17.17  LINE AND EDGE TYPE DEFINITION [v3]  References: 7.4.17	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any limits on the number of definitions?  Any limits on the number of elements in a given definition?  Any restrictions on the dash cycle repeat length?  Any restrictions on complexity of definition to prevent degeneracies?  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the number of definitions? <i>Maximum of 32 line types shall be specified simultaneously.</i>  Any limits on the number of elements in a given definition? <i>Number of values in the dash gap list shall not exceed 8.</i>  Any restrictions on the dash cycle repeat length? <i>None.</i>  Any restrictions on complexity of definition to prevent degeneracies? <i>None.</i>  Other: <i>None.</i>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.18  HATCH STYLE DEFINITION [v3]  References: 7.4.18	<p>Same as Model Profile <b><u>NO</u></b></p> <p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>Limit on the number of hatch styles?</p> <p>Limit on the number of gaps in a given definition?</p> <p>Any limits on duty cycle length?</p> <p>Any restrictions on complexity of definition to prevent degeneracies?</p> <p>Any restrictions on the style indicator:</p> <p>Other:</p>	<p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Limit on the number of hatch styles? <i>Maximum of 32 hatch styles shall be specified simultaneously.</i></p> <p>Limit on the number of gaps in a given definition? <i>Number of entries in the gap width list shall not exceed 8.</i></p> <p>Any limits on duty cycle length? <i>None.</i></p> <p>Any restrictions on complexity of definition to prevent degeneracies? <i>None.</i></p> <p>Any restrictions on the style indicator: <i>None.</i></p> <p>Other: <i>None.</i></p>
	T.17.19  GEOMETRIC PATTERN DEFINITION [v3]  References: 7.4.19	<p>Same as Model Profile <b><u>NO</u></b></p> <p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>Any limits on the number of geometric patterns defined?</p> <p>Any limits on the classes of primitives?</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Any limits on the number of geometric patterns defined? <i>The maximum number of geometric patterns is 64.</i></p> <p>Any limits on the classes of primitives? <i>None.</i></p> <p>Other: <i>None.</i></p>

**Table 17 - Picture descriptor elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.17.20 APPLICATION STRUCTURE DIRECTORY [V4]  Reference: 7.4.20 9.5.4.6 T.14.5	Same as Model Profile <b><u>NO</u></b>  Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Follow rules for non-graphical text strings for application structure identifier parameter, clause 9.5.4.6 and T.14.20  If present, shall APPLICATION STRUCTURE DIRECTORY elements be complete, i.e., have an entry for every application structure in the picture? (yes/no)  If “no”, describe any special meaning associated with those entries which appear in APPLICATION STRUCTURE DIRECTORY elements which are incomplete.  Other: <b>None.</b>	Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Follow rules for non-graphical text strings for application structure identifier parameter, clause 9.5.4.6 and T.14.20  If present, shall APPLICATION STRUCTURE DIRECTORY elements be complete, i.e., have an entry for every application structure in the picture? (yes/no) <b>Yes.</b>  If “no”, describe any special meaning associated with those entries which appear in APPLICATION STRUCTURE DIRECTORY elements which are incomplete.  Other: <b>None.</b>

**Table 18 - Control Elements**

Remarks (see above)	Element	Specifications - PPF	Specifications - Model Profile
	T.18.1  VDC INTEGER PRECISION  [v1]  References: 7..5.1 Part 3, 8.5 Part 4, 7.4	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>16</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? N/A  Other: <b>None</b>	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>16 or 32</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>[-32767,32767],[-32768,32767] or [-2147483648,2147483647].</b>  Other: <b>None</b>
	T.18.2  VDC REAL PRECISION [v1]  References: 7.5.2 Part 3, 8.5 Part 4, 7.4	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The parameter value of this element is encoding dependent.  If binary encoding is permitted, are there any restrictions on the Parameter Value?  If clear text encoding is permitted, are there any restrictions on the parameter value?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b>  The parameter value of this element is encoding dependent  If binary encoding is permitted, are there any restrictions on the Parameter Value? <b>(1,16,16) or (0,9,23)</b>  Other: <b>None</b>  If clear text encoding is permitted, are there any restrictions on the parameter value? <b>0.0, 1.0 , 4; or -32767, +32767, 4; or -32768, +32767, 10; or -3.4028235E38, +3.4028235E38, 8</b>  <b>Note: The latter two values are the closest approximation, in base 10 clear text, to the REAL PRECISION values allowed in binary encoded CGMs.</b>  Other: <b>None</b>

Table 18 - Control Elements (continued)

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.18.3  AUXILIARY COLOUR [v1]  References: 7.5.3 9.5.4.1 T.14.1 D.4.4.1	Same as Model Profile <b>YES</b>  Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  The auxiliary colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Other: None	<b>Element: Required NO Permitted YES Prohibited NO</b>  The auxiliary colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Other: <i>None.</i>
	T.18.4  TRANSPARENCY [v1]  References: 7.5.4 9.5.7.9 T.14.1 T.26.11	Same as Model Profile <b>YES</b>  Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b>  Any restrictions on the parameter value?  Other:	<b>Element is: Required NO Permitted YES Prohibited NO</b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.18.5  CLIP RECTANGLE [v1]  References: 7.5.5 D.4.4.2	Same as Model Profile <b>NO</b>  Element: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b>  Meaning of boundary cases for: zero-area: area greater than VDC extent: additional cases?  <i>NOTE - Because objects inside and on the boundary are drawn, then zero area does not have the sometimes claimed effect of hiding subsequent primitives - there will be a visible effect, a dot or a line, if the object intersects the boundary of the degenerate area.</i>  Other:	<b>Element: Required NO Permitted YES Prohibited NO</b>  Meaning of boundary cases for: zero-area: <i>Prohibited.</i> area greater than VDC extent: <i>Clipping shall be done to the intersection of CLIP RECTANGLE and VDC EXTENT.</i> additional cases? <i>None.</i>  Other: <i>None.</i>

**Table 18 - Control Elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.18.6  CLIP INDICATOR [v1]  References: 7.5.6	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	<b>[REDACTED]</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.18.7  LINE CLIPPING MODE [v2]  References: 7.5.7 D.4.4.3	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	<b>[REDACTED]</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>

**Table 18 - Control Elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.18.8	Same as Model Profile <b><u>NO</u></b>	
	MARKER CLIPPING MODE [v2] References: 7.5.8 D.4.4.3	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Any restrictions on the parameter value? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Any restrictions on the parameter value? <i>None.</i> Other: <i>None.</i>
	T.18.9	Same as Model Profile <b><u>NO</u></b>	
	EDGE CLIPPING MODE [v2] References: 7.5.9 D.4.4.3	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Any restrictions on the parameter value? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Any restrictions on the parameter value? <i>None.</i> Other: <i>None.</i>
	T.18.10	Same as Model Profile <b><u>NO</u></b>	
	NEW REGION [v2] References: 7.5.10	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> This element shall be permitted only if <b>BEGIN FIGURE</b> is permitted. Any restrictions on the number of occurrences? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> This element shall be permitted only if <b>BEGIN FIGURE</b> is permitted. Any restrictions on the number of occurrences? <i>None.</i> Other: <i>None.</i>
	T.18.11	Same as Model Profile <b><u>NO</u></b>	
	SAVE PRIMITIVE CONTEXT [v2] References: 7.5.11	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Maximum number of simultaneously saved contexts: Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Maximum number of simultaneously saved contexts: <i>1024.</i> Other: <i>None.</i>

**Table 18 - Control Elements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.18.12  RESTORE PRIMITIVE CONTEXT [v2]  References: 7.5.12	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  This element is permitted only if <i>SAVE PRIMITIVE CONTEXT</i> is permitted.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  This element is permitted only if <i>SAVE PRIMITIVE CONTEXT</i> is permitted.  Other: <i>None</i> .
	T.18.13  PROTECTION REGION INDICATOR [v3]  References: 7.5.13	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  This element shall be permitted only if <i>BEGIN PROTECTION REGION</i> is permitted.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  This element shall be permitted only if <i>BEGIN PROTECTION REGION</i> is permitted.  Other: <i>None</i> .
	T.18.14  GENERALIZED TEXT PATH MODE [v3]  References: 7.5.14	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .
Although not currently used, GeoSym will permit this because line join of type mitre is being used.	T.18.15  MITRE LIMIT [v3]  References: 7.5.15	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value?  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .

**Table 18 - Control Elements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.18.16  TRANSPARENT CELL COLOUR [v3]  References: 7.5.16 9.5.4.1 T.14.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The transparent cell colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter values?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The transparent cell colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>

**Table 19 - Graphical primitive elements**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.19.1  POLYLINE [v1]  References: 7.6.1 T.14.2 D.2.21	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points or state "no limit":  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points or state "no limit": 4096.  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.2  DISJOINT POLYLINE [v1]  References: 7.6.2 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of points or state "no limit":  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points or state "no limit": 4096.  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.3  POLYMARKER [v1]  References: 7.6.3	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of points or state "no limit":  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points or state "no limit": 4096.  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.4  TEXT [v1]  References: 7.6.4 9.5.4.5	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Is the <b>not final</b> flag allowed: (yes/no) <i>No, append text not permitted.</i>  Other: <i>None.</i>	<b>NO</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Is the <b>not final</b> flag allowed: (yes/no) <i>Yes.</i>  Other: <i>None.</i>
	T.19.5  RESTRICTED TEXT [v1]  References: 7.6.5 9.5.4.5 T.26.7 D.4.5.2	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Is the <b>not final</b> flag allowed: (yes/no) <i>No, append text not permitted</i>  For [v1/2] metafiles, is the realization of <i>RESTRICTED TEXT</i> according to one of the standard or registered values for <i>RESTRICTED TEXT TYPE</i> ? (yes/no) If yes, specify.  For [v3] and [v4] metafiles, <i>RESTRICTED TEXT TYPE</i> shall be used if this element is used.  Other:	<b>NO</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Is the <b>not final</b> flag allowed: (yes/no) <i>Yes.</i>  For [v1/2] metafiles, is the realization of <i>RESTRICTED TEXT</i> according to one of the standard or registered values for <i>RESTRICTED TEXT TYPE</i> ? (yes/no) <b>Yes</b> If yes, specify. <i>Boxed-cap, also see T.26.7.</i>  For [v3] and [v4] metafiles, <i>RESTRICTED TEXT TYPE</i> shall be used if this element is used.  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.19.6  APPEND TEXT [v1]  References: 7.6.6 9.5.4.5 D.4.5.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The string parameter shall follow the rules for graphical text, clause 9.5.4.5.  Other: <i>None.</i>
	T.19.7  POLYGON [v1]  References: 7.6.7 T.14.3 D.2.2.2	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points:  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points: <i>4096.</i>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>
	T.19.8  POLYGON SET [v1]  References: 7.6.8 T.14.3 D.2.2.2	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points:  Number of polygons in a set?  Zero-area geometric degeneracies shall be defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points: <i>4096.</i>  Number of polygons in a set? <i>No limit.</i>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>Each individual polygon within a set shall have at least 3 points.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.9  CELL ARRAY [v1]  References: 7.6.9 D.4.5.3	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Limit for nx:  Limit for ny:  Limit for nx * ny:  Are rotated and skewed cell arrays allowed? (yes/no) If yes, specify the graphical meaning.  Other:	<b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Limit for nx: 2048.  Limit for ny: 2048.  Limit for nx * ny: 4194304.  Are rotated and skewed cell arrays allowed? (yes/no) No. If yes, specify the graphical meaning.  Other: Zero-area cell arrays are prohibited.
	T.19.10  GENERALIZED DRAWING PRIMITIVE [v1]  References: 7.6.10	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  List all registered GDPs that are allowed:  List all profile-defined GDPs that are allowed and attach complete description:  Other:	<b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  List all registered GDPs that are allowed:  List all profile-defined GDPs that are allowed and attach complete description:  Other:

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.19.11  RECTANGLE [v1]  References: 7.6.11 T.14.3 D.2.2.2	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>
	T.19.12  CIRCLE [v1]  References: 7.6.12 T.14.3 D.2.2.2	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>
	T.19.13  CIRCULAR ARC 3 POINT [v1]  References: 7.6.13 T.14.3 D.2.2.2 D.4.5.4	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.2  Other: <i>Each individual polygon within a set shall have at least 3 points.</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.2  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.19.14  CIRCULAR ARC 3 POINT CLOSE [v1]  References: 7.6.14 T.14.3 D.2.2.2 D.4.5.5	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>
	T.19.15  CIRCULAR ARC CENTRE [v1]  References: 7.6.15 T.14.2 D.2.2.2 D.4.5.6	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2  Other: <i>None.</i>
	T.19.16  CIRCULAR ARC CENTRE CLOSE [v1]  References: 7.6.13 T.14.3 D.2.2.2 D.4.5.7	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.3  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.19.17  ELLIPSE [v1]  References: 7.6.17 D.2.2.2 D.4.5.9 D.4.5.10	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.3  Other: <i>None.</i>
	T.19.18  ELLIPTICAL ARC [v1]  References: 7.6.18 T.14.2 D.2.2.1 D.4.5.11	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.19  ELLIPTICAL ARC CLOSE [v1]  References: T.6.19 T.14.3 D.2.2.2 D.4.5.12	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.3.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.3.  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.20  CIRCULAR ARC CENTRE REVERSED [v2]  References: 7.6.20 T.14.2 D.2.2.1 D.4.5.8	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.2.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-area geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.21  CONNECTING EDGE [v2]  References: 7.6.21 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  This element shall be permitted only if <b>BEGIN/END FIGURE</b> is permitted.  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  This element shall be permitted only if <b>BEGIN/END FIGURE</b> is permitted.  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.22  HYPERBOLIC ARC [v3]  References: 7.6.22 9.5.4.3 T.14.2	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.23  PARABOLIC ARC [v3]  References: 7.6.23 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.24  NON-UNIFORM B-SPLINE [v3]  References: 7.6.24 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of spline orders:  Maximum number of control points:  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Set of spline orders: <i>Cubic spline (order=4).</i>  Maximum number of control points: <i>4096.</i>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: The spline shall be clamped form, i.e., the first 4 knots shall be identical and the last 4 knots shall be identical.
	T.19.25  NON-UNIFORM RATIONAL B-SPLINE [v3]  References: 7.6.25 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Set of spline orders:  Maximum number of control points:  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Set of spline orders: <i>Cubic spline (order=4).</i>  Maximum number of control points: <i>4096.</i>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: The spline shall be clamped form, i.e., the first 4 knots shall be identical and the last 4 knots shall be identical.

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.26  POLYBEZIER [v3]  References: 7.6.26 T.14.2 D.2.2.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Maximum number of points:  Any restrictions on the continuity indicator?  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other:	<b>NO</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum number of points: 4096.  Any restrictions on the continuity indicator? <i>None.</i>  Zero-length geometric degeneracies shall be as defined in clause T.14.2.  Other: <i>None.</i>
	T.19.27  POLYSYMBOL [v3]  References: 7.6.27 D.2.2.1	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Point list:  Effect of a reference to a symbol index parameter which is not in the symbol library:    Other:	<b>YES</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Point list:  Effect of a reference to a symbol index parameter which is not in the symbol library:    Other: <i>NOTE - This element is prohibited because SYMBOL LIBRARY LIST is prohibited.</i>

**Table 19 - Graphical primitive elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.19.28  BITONAL TILE [v3]  References: 7.6.28 D.2.2.1 D.4.5.13	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  List allowable compression types:  Requirements on row padding:  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  List allowable compression types: <i>Values 0..6.</i>  Requirements on row padding: <i>None.</i>  Other: <i>CCITT compression methods (T6 and T4) should be used with 1 bit cell colour precision and indexed colour.</i>  <i>NOTE - Work is in progress on registration of JPEG. When JPEG is registered, it may be added to the allowable compression type values in a future edition of this profile.</i>
	T.19.29  TILE [v3]  References: 7.6.29 D.2.2.1 D.4.5.13	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  List allowable compression types:  Requirements on row padding:  Other:	  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  List allowable compression types: <i>Values 0..6.</i>  Requirements on row padding: <i>None.</i>  Other: <i>CCITT compression methods (T6 and T4) should be used with 1 bit cell colour precision and indexed colour.</i>  <i>NOTE - Several compression types have been registered (as of date of publication) in the ISO Register of Graphical Items, specifically: JPEG, LZW, and PNG.</i>

**Table 20 - Attribute elements**

Remarks	Element	Specifications – PPF	Specifications - Model Profile																								
	T.20.1  LINE BUNDLE INDEX [v1]  References: 7.7.1 9.5.4.2 D.4.6.1 T.17.11	<p>Same as Model Profile <b>NO</b></p> <p>Element: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b></p> <p>The line bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values:</p> <p>For [v2], [v3], and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other:</p>	<p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>The line bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values: 1..5.</p> <table border="1"> <thead> <tr> <th><i>Index</i></th> <th><i>1</i></th> <th><i>2</i></th> <th><i>3</i></th> <th><i>4</i></th> <th><i>5</i></th> </tr> </thead> <tbody> <tr> <td><i>line type</i></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td><i>line width</i></td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> </tr> <tr> <td><i>line colour</i></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>For [v2], [v3], and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other: <i>None.</i></p>	<i>Index</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>line type</i>	1	2	3	4	5	<i>line width</i>	1.0	1.0	1.0	1.0	1.0	<i>line colour</i>	1	1	1	1	1
<i>Index</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>																						
<i>line type</i>	1	2	3	4	5																						
<i>line width</i>	1.0	1.0	1.0	1.0	1.0																						
<i>line colour</i>	1	1	1	1	1																						
	T.20.2  LINE TYPE [v1]  References: 7.7.2 7.4.17 D.4.6.2	<p>Same as Model Profile <b>YES</b></p> <p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Select 1 or more of the following:</p> <p><b>YES</b> values 1...5:</p> <p><b>NO</b> subset of registered values (attach list):</p> <p><b>NO</b> profile-defined values (attach complete description):</p> <p>For [v3] and [v4] metafiles,</p> <p><b>YES</b> Negative values assigned by the LINE AND EDGE TYPE DEFINITION element.</p> <p>Other: None</p>	<p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Select 1 or more of the following:</p> <p><b>YES</b> values 1..5:</p> <p><b>NO</b> subset of registered values (attach list):</p> <p><b>NO</b> profile-defined values (attach complete description):</p> <p>For [v3] and [v4] metafiles,</p> <p><b>YES</b> Negative values assigned by the LINE AND EDGE TYPE DEFINITION element.</p> <p>Other: <i>None.</i></p>																								

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.3	Same as Model Profile <b><u>NO</u></b>	
	LINE WIDTH [v1]  References: 7.7.3 D.4.6.3	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) No If yes, specify its meaning.  Any restrictions on the parameter value? None.  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) <i>Yes</i> . If yes, specify its meaning. <i>Minimum available line width</i> .  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .
	T.20.4	Same as Model Profile <b><u>NO</u></b>	
	LINE COLOUR [v1]  References: 7.7.4 9.5.4.1 T.14.1	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The line colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? Index only.  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The line colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile																								
	T.20.5	Same as Model Profile <b><u>NO</u></b>																									
	MARKER BUNDLE INDEX [v1]  References: 7.7.5 9.5.4.2 T.17.12 D.4.6.1	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>The marker bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values:</p> <p>For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>The marker bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values: 1..5.</p> <table border="1"> <thead> <tr> <th><b><u>Index</u></b></th> <th><b><u>1</u></b></th> <th><b><u>2</u></b></th> <th><b><u>3</u></b></th> <th><b><u>4</u></b></th> <th><b><u>5</u></b></th> </tr> </thead> <tbody> <tr> <td><i>marker type</i></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td><i>marker width</i></td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> <td>1.0</td> </tr> <tr> <td><i>marker colour</i></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other: <i>None.</i></p>	<b><u>Index</u></b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>	<i>marker type</i>	1	2	3	4	5	<i>marker width</i>	1.0	1.0	1.0	1.0	1.0	<i>marker colour</i>	1	1	1	1	1
<b><u>Index</u></b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>																						
<i>marker type</i>	1	2	3	4	5																						
<i>marker width</i>	1.0	1.0	1.0	1.0	1.0																						
<i>marker colour</i>	1	1	1	1	1																						
	T.20.6	Same as Model Profile <b><u>NO</u></b>																									
	MARKER TYPE [v1]  References: 7.7.6 D.4.6.4	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>Indicate one or more of the following restrictions:</p> <p><b><u>NO</u></b> values 1..5:</p> <p><b><u>NO</u></b> subset of registered values (attach list):</p> <p><b><u>NO</u></b> profile-defined values (attach complete description):</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Indicate one or more of the following restrictions:</p> <p><b><u>YES</u></b> values 1..5:</p> <p><b><u>NO</u></b> subset of registered values (attach list):</p> <p><b><u>NO</u></b> profile-defined values (attach complete description):</p> <p>Other: <i>None.</i></p>																								

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.7  MARKER SIZE [v1]  References: 7.7.7 D.4.6.5	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Is value zero allowed? (yes/no) If yes, specify its meaning.  Any restrictions on the parameter value?  Other:	<b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) <i>Yes</i> . If yes, specify its meaning. <i>Minimum available size</i> .  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .
	T.20.8  MARKER COLOUR [v1]  References: 7.7.8 9.5.4.1 T.14.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The marker colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value?  Other:	<b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The marker colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile																		
	T.20.9	Same as Model Profile <b><u>NO</u></b>																			
	TEXT BUNDLE INDEX [v1]  References: 7.7.9 9.5.4.2 T.17.13 D.4.6.1	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>The text bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values:</p> <p>For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>The text bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values: 1.2.</p> <table border="1"> <thead> <tr> <th><i>Index</i></th> <th><i>1</i></th> <th><i>2</i></th> </tr> </thead> <tbody> <tr> <td><i>font index</i></td> <td><i>1</i></td> <td><i>1</i></td> </tr> <tr> <td><i>text precision</i></td> <td><i>stroke</i></td> <td><i>stroke</i></td> </tr> <tr> <td><i>character expansion factor</i></td> <td><i>1.0</i></td> <td><i>0.7</i></td> </tr> <tr> <td><i>character spacing</i></td> <td><i>0.0</i></td> <td><i>0.0</i></td> </tr> <tr> <td><i>text colour</i></td> <td><i>1</i></td> <td><i>1</i></td> </tr> </tbody> </table> <p>For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other: <i>None.</i></p>	<i>Index</i>	<i>1</i>	<i>2</i>	<i>font index</i>	<i>1</i>	<i>1</i>	<i>text precision</i>	<i>stroke</i>	<i>stroke</i>	<i>character expansion factor</i>	<i>1.0</i>	<i>0.7</i>	<i>character spacing</i>	<i>0.0</i>	<i>0.0</i>	<i>text colour</i>	<i>1</i>	<i>1</i>
<i>Index</i>	<i>1</i>	<i>2</i>																			
<i>font index</i>	<i>1</i>	<i>1</i>																			
<i>text precision</i>	<i>stroke</i>	<i>stroke</i>																			
<i>character expansion factor</i>	<i>1.0</i>	<i>0.7</i>																			
<i>character spacing</i>	<i>0.0</i>	<i>0.0</i>																			
<i>text colour</i>	<i>1</i>	<i>1</i>																			
	T.20.10	Same as Model Profile <b><u>YES</u></b>																			
	TEXT FONT INDEX [v1]  References: 7.7.10 9.5.4.2 T.16.13	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Every referenced index shall refer to an entry in the FONT LIST (see T.16.13).</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Every referenced index shall refer to an entry in the FONT LIST (see T.16.13).</p> <p>Other: <i>None.</i></p>																		

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.11  TEXT PRECISION [v1]  References: 7.7.11	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? String only.  Other: <i>Since this profile only specifies a single value or option, this element although permitted, never needs to appear in a compliant metafile. See Clause 6.1.</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.20.12  CHARACTER EXPANSION FACTOR [v1]  References: 7.7.12 D.4.6.7	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) No. If yes, state the meaning.  Any restrictions on the parameter value? 1.0 only.  Other: <i>Since this profile only specifies a single value or option, this element although permitted, never needs to appear in a compliant metafile. See Clause 6.1.</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) <i>No.</i> If yes, state the meaning.  Any restrictions on the parameter value? <i>Values shall be restricted to the range 0.1 - 10.0.</i>  Other: <i>None.</i>
	T.20.13  CHARACTER SPACING [v1]  References: 7.7.13 D.4.6.8	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? 0.0 only.  Other: <i>Since this profile only specifies a single value or option, this element although permitted, never needs to appear in a compliant metafile. See Clause 6.1.</i>	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>Values shall be restricted to the range -1.0 - 5.0.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.14	Same as Model Profile <b><u>NO</u></b>	
	TEXT COLOUR [v1]  References: 7.7.14 9.5.4.1 T.14.1	<p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>The <i>text colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.</p> <p>Any restrictions on the parameter value?          Index only.</p> <p>Other:</p>	<p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>The <i>text colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.</p> <p>Any restrictions on the parameter value?          <i>None</i>.</p> <p>Other: <i>None</i>.</p>
	T.20.15	Same as Model Profile <b><u>NO</u></b>	
	CHARACTER HEIGHT [v1]  References: 7.7.15 D.4.6.9	<p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Is zero height allowed? (yes/no)          No. If yes, state the meaning.</p> <p>Any restrictions on the parameter value?          Yes, minimum 6 - 72.</p> <p>Other:          <i>None</i>.</p>	<p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Is zero height allowed?          <i>Yes</i>. If yes, state the meaning.          <i>Minimum available height</i>.</p> <p>Any restrictions on the parameter value?          <i>None</i>.</p> <p>Other: <i>None</i>.</p>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.16  CHARACTER ORIENTATION [v1]  References: 7.7.16 D.4.6.10	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the following distortion aspects? Yes. rotation? Not allowed. skewing? Not allowed. mirroring? Not allowed. aspect ratio? Not allowed.  Other: In all cases the character orientation will be left to right without rotation for all displayable text strings. The CGM VDC Extent and Character Orientations shall be marked as follows based on quadrant:  <i>When using quadrant #1 (the VDC Extent element with x increasing right and y increasing up (x1&lt;x2 and y1&lt;y2)), the Character Orientation element is not required, but if present shall be Y= 1 and X = 1</i>  <i>When using quadrant #2 (the VDC Extent element with x increasing left and y increasing up (x1&gt;x2 and y1&lt;y2)), the Character Orientation element is required and shall be Y=1 and X = -1.</i>  <i>When using quadrant #3 (the VDC Extent element with x increasing left and y increasing down (x1&gt;x2 and y1&gt;y2)), the Character Orientation element is required and shall be Y= -1 and X = -1.</i>  <i>When using quadrant #4 (the VDC Extent element with x increasing right and y increasing down (x1&lt;x2 and y1&gt;y2)), the Character Orientation element is required and shall be Y= -1 and X = 1.</i>  <i>By default the Character Orientation shall be 0, 1, 1, 0 (quadrant 1).</i>	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the following distortion aspects? rotation? <i>None.</i> skewing? <i>None.</i> mirroring? <i>None.</i> aspect ratio? <i>None.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.17	Same as Model Profile <b><u>NO</u></b>	
	TEXT PATH [v1]  References: 7.7.17 D.4.6.11	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? Right only.  Other: <i>Since this profile only specifies a single value or option, this element although permitted, never needs to appear in a compliant metafile. See Clause 6.1.</i>	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.20.18	Same as Model Profile <b><u>NO</u></b>	
	TEXT ALIGNMENT [v1]  References: 7.7.18 D.4.6.12	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the horizontal and vertical alignment values? Normal horizontal and vertical only.  Any restrictions on the continuous horizontal and vertical alignment values? <i>None.</i>  Other: <i>Since this profile only specifies a single value or option, this element although permitted, never needs to appear in a compliant metafile. See Clause 6.1.</i>	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any retractions on the horizontal and vertical alignment values? <i>None.</i>  Any restrictions on the continuous horizontal and vertical alignment values? <i>None.</i>  Other: <i>None.</i>
	T.20.19	Same as Model Profile <b><u>NO</u></b>	
	CHARACTER SET INDEX [v1]  References: 7.7.19 D.4.6.13 9.5.4.2 T.16.14 T.16.22	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Every referenced index shall refer to an entry in the CHARACTER SET LIST or GLYPH MAPPING. This includes implicit reference to the default index value.  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Every referenced index shall refer to an entry in the CHARACTER SET LIST or GLYPH MAPPING. This includes implicit reference to the default index value.  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile																														
	T.20.20	Same as Model Profile <b><u>NO</u></b>																															
	ALTERNATE CHARACTER SET INDEX [v1]  References: 7.7.20 9.5.4.2 T.16.14 T.16.22 D.4.6.13	Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Every referenced index shall refer to an entry in the CHARACTER SET LIST or GLYPH MAPPING. This includes implicit reference to the default index value.  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Every referenced index shall refer to an entry in the CHARACTER SET LIST or GLYPH MAPPING. This includes implicit reference to the default index value.  Other: <i>None.</i>																														
	T.20.21	Same as Model Profile <b><u>NO</u></b>																															
	FILL BUNDLE INDEX [v1]  References: 7.7.21 9.5.4.2 T.17.14 D.4.6.1	Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The <i>fill bundle index</i> parameter shall follow the rules for indexes, clause 9.5.4.2.  For [v1] metafiles, allowable index values:  For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The <i>fill bundle index</i> parameter shall follow the rules for indexes, clause 9.5.4.2.  For [v1] metafiles, allowable index values: 1..5. <table border="0"> <tr> <td><i>Index</i></td> <td><u>1</u></td> <td><u>2</u></td> <td><u>3</u></td> <td><u>4</u></td> <td><u>5</u></td> </tr> <tr> <td><i>Interior style</i></td> <td><i>hatch</i></td> <td><i>hatch</i></td> <td><i>hatch</i></td> <td><i>hatch</i></td> <td><i>hatch</i></td> </tr> <tr> <td><i>Fill colour</i></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td><i>Hatch index</i></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td><i>Pattern index</i></td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table> For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.  Other: <i>None.</i>	<i>Index</i>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<i>Interior style</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>	<i>Fill colour</i>	1	1	1	1	1	<i>Hatch index</i>	1	2	3	4	5	<i>Pattern index</i>	1	1	1	1	1
<i>Index</i>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>																												
<i>Interior style</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>	<i>hatch</i>																												
<i>Fill colour</i>	1	1	1	1	1																												
<i>Hatch index</i>	1	2	3	4	5																												
<i>Pattern index</i>	1	1	1	1	1																												

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.22  INTERIOR STYLE [v1]  References: 7.7.22 D.4.6.15	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  For hollow interior style, line type and width of the bounding line:  Any restrictions on the parameter value?  Other:	<b>NO</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  For hollow interior style, line type and width of the bounding line: <i>Solid line type and default line width.</i>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.20.23  FILL COLOUR [v1]  References: 7.7.23 9.5.4.1 T.14.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The <i>fill colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? Index only.  Other:	<b>NO</b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The <i>fill colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
GeoSym permits this element but does not use it.	T.20.24	Same as Model Profile <b><u>YES</u></b>	
	HATCH INDEX [v1]  References: 7.4.18 7.7.24 5.7.4.2 D.4.6.16	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Select 1 or more of the following: <b><u>YES</u></b> values 1..6: <b><u>NO</u></b> subset of registered values (attach list): <b><u>NO</u></b> profile-defined values (attach complete description):  For [v3] and [v4] metafiles: <b><u>YES</u></b> negative values assigned by the HATCH STYLE DEFINITION elements.  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Select 1 or more of the following: <b><u>YES</u></b> values 1..6: <b><u>NO</u></b> subset of registered values (attach list): <b><u>NO</u></b> profile-defined values (attach complete description):  For [v3] and [v4] metafiles: <b><u>YES</u></b> negative values assigned by the HATCH STYLE DEFINITION elements.  Other: <i>None.</i>
	T.20.25	Same as Model Profile <b><u>YES</u></b>	
	PATTERN INDEX [v1]  References: 7.7.25 9.5.4.2	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The <i>pattern index</i> parameter shall follow the rules for indexes, clause 9.5.4.2.  Any restrictions on the parameter value?  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The <i>pattern index</i> parameter shall follow the rules for indexes, clause 9.5.4.2.  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile																								
	<p>T.20.26</p> <p>EDGE BUNDLE INDEX [v1]</p> <p>References: 7.7.26 9.5.4.2 T.17.15 D.4.6.1</p>	<p>Same as Model Profile <b>NO</b></p> <p>Element: Required <b>NO</b> Permitted <b>NO</b> Prohibited <b>YES</b></p> <p>The edge bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values:</p> <p>For For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other:</p>	<p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>The edge bundle index parameter shall follow the rules for indexes, clause 9.5.4.2.</p> <p>For [v1] metafiles, allowable index values: 1..5.</p> <table border="1" data-bbox="1260 479 1858 568"> <thead> <tr> <th><i>index</i></th> <th><i>1</i></th> <th><i>2</i></th> <th><i>3</i></th> <th><i>4</i></th> <th><i>5</i></th> </tr> </thead> <tbody> <tr> <td><i>edge type</i></td> <td><i>1</i></td> <td><i>2</i></td> <td><i>3</i></td> <td><i>4</i></td> <td><i>5</i></td> </tr> <tr> <td><i>edge width</i></td> <td><i>1.0</i></td> <td><i>1.0</i></td> <td><i>1.0</i></td> <td><i>1.0</i></td> <td><i>1.0</i></td> </tr> <tr> <td><i>edge colour</i></td> <td><i>1</i></td> <td><i>1</i></td> <td><i>1</i></td> <td><i>1</i></td> <td><i>1</i></td> </tr> </tbody> </table> <p>For [v2], [v3] and [v4] metafiles, any referenced bundle shall have an explicit representation definition.</p> <p>Other: <i>None.</i></p>	<i>index</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>edge type</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>edge width</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>edge colour</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>index</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>																						
<i>edge type</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>																						
<i>edge width</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>																						
<i>edge colour</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>																						
	<p>T.20.27</p> <p>EDGE TYPE [v1]</p> <p>References: 7.4.17 7.7.27 D.4.6.17</p>	<p>Same as Model Profile <b>YES</b></p> <p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Select 1 or more of the following:</p> <p><b>YES</b> values 1...5: <b>NO</b> subset of registered values (attach list): <b>NO</b> profile-defined values (attach complete description):</p> <p>For [v3] and [v4] metafiles: <b>YES</b> negative values assigned by the LINE AND EDGE TYPE DEFINITION element.</p> <p>Other: <i>None.</i></p>	<p>Element: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Select 1 or more of the following:</p> <p><b>YES</b> values 1..5: <b>NO</b> subset of registered values (attach list): <b>NO</b> profile-defined values (attach complete description):</p> <p>For [v3] and [v4] metafiles: <b>YES</b> negative values assigned by the LINE AND EDGE TYPE DEFINITION element.</p> <p>Other: <i>None.</i></p>																								

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.28	Same as Model Profile <b><u>NO</u></b>	
	EDGE WIDTH [v1]  References: 7.7.28 D.4.6.18	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) No. If yes, specify its meaning.  Any restrictions on the parameter value? None  Other: <i>None</i>	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Is value zero allowed? (yes/no) <i>Yes</i> . If yes, specify its meaning. <i>Minimum available edge width</i> .  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .
	T.20.29	Same as Model Profile <b><u>NO</u></b>	
	EDGE COLOUR [v1]  References: 7.7.29 9.5.4.1 T.14.1	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The edge colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? Index only.  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  The edge colour specifier parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .
	T.20.30	Same as Model Profile <b><u>YES</u></b>	
	EDGE VISIBILITY [v1]  References: 7.7.30	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.31	Same as Model Profile <b><u>NO</u></b>	
	FILL REFERENCE POINT [v1]  References: 7.7.31	Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.20.32	Same as Model Profile <b><u>NO</u></b>	
	PATTERN TABLE [v1]  References: 7.7.32	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum size for nx: 32  Allowable values for nx: 32  Maximum size for ny: 32  Allowable values for ny: 32  Any restrictions on the number of pattern definitions? 1  Any restrictions on allowable combinations of nx and ny? 32x32  Any restrictions on the number of colours? 1  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Maximum size for nx: 32.  Allowable values for nx: 8, 16, or 32.  Maximum size for ny: 32.  Allowable values for ny: 8, 16, or 32.  Any restrictions on the number of pattern definitions? 64.  Any restrictions on allowable combinations of nx and ny? <i>None.</i>  Any restrictions on the number of colours? <i>None.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.33  PATTERN SIZE [v1]  References: 7.7.33 D.4.6.19	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Must pattern vectors be parallel to coordinate axes? (yes/no) If no, state the meaning of skewed or non-aligned patterns.  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Must pattern vectors be parallel to coordinate axes? (yes/no) <i>Yes.</i> If no, state the meaning of skewed or non-aligned patterns.  Other:
	T.20.34  COLOUR TABLE [v1]  References: 7.7.34 9.5.4.1 T.14.1	Same as Model Profile <b><u>YES</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the length of colour list?  Any restrictions on the index values? .  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the length of colour list? <i>Monochrome:2, Greyscale:64, Colour:256.</i>  Any restrictions on the index values? <i>Index values shall not exceed the maximum colour index.</i>  Other: <i>None.</i>
	T.20.35  ASPECT SOURCE FLAGS [v1]  References: 7.7.35 D.4.6.20	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Are all ASF values to be the same: for the metafile? (yes/no) within each class (line, marker, text, fill, edge) of primitive? (yes/no)  Other:	<b>NO</b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Are all ASF values to be the same: for the metafile? (yes/no) <i>No.</i> within each class (line, marker, text, fill, edge) of primitive? (yes/no) <i>Yes.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.36	Same as Model Profile <b><u>YES</u></b>	
	PICK IDENTIFIER [v2]  References: 7.7.36	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value?  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>
	T.20.37	Same as Model Profile <b><u>NO</u></b>	
	LINE CAP [v3]  References: 7.7.37 9.5.7.5 T.26.7	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values for the line cap indicator? (choose 1 or both) <b><u>YES</u></b> must be 3 for point CGMs must be 2 for linear CGMs <b><u>NO</u></b> subset of registered values (attach list):  Any restrictions on the set of values for the dash cap indicator? (choose 1 or both) <b><u>YES</u></b> must be 3 for point CGMs must be 2 for linear CGMs <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None</i>	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values for the line cap indicator? (choose 1 or both) <b><u>YES</u></b> values 1..5: <b><u>NO</u></b> subset of registered values (attach list):  Any restrictions on the set of values for the dash cap indicator? (choose 1 or both) <b><u>YES</u></b> values 1..3: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.38	Same as Model Profile <b><u>NO</u></b>	
	LINE JOIN [v3]  References: 7.7.38 9.5.7.5 T.26.7	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> must be 3 for point CGMs must be 2 for linear CGMs <b><u>NO</u></b> subset of registered values (attach list):  Other: None	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> values 1..4: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None</i> .
	T.20.39	Same as Model Profile <b><u>NO</u></b>	
	LINE TYPE CONTINUATION [v3]  References: 7.7.39 9.5.7.5 T.26.7	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? Must be 2 for both point CGMs and linear CGMs  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? <i>1..4</i> .  Other: <i>None</i> .
	T.20.40	Same as Model Profile <b><u>NO</u></b>	
	LINE TYPE INITIAL OFFSET [v3]  References: 7.7.40	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None</i> .  Other: <i>None</i> .

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.41  TEXT SOURCE TYPE [v3]  References: 7.7.41	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>NO</u></b> values 1..4: <b><u>NO</u></b> subset of registered values (attach list):  Other:	<b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> values 1..4: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None.</i>
	T.20.42  RESTRICTED TEXT TYPE [v3]  References: 7.7.42 9.5.7.5 T.26.7	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>NO</u></b> values 1..6: <b><u>NO</u></b> subset of registered values (attach list):  Algorithms for achieving restriction type? (attach)  Other:	<b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> values 1..6: <b><u>NO</u></b> subset of registered values (attach list):  Algorithms for achieving restriction type? (attach) <i>Not specified.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.43	Same as Model Profile <b><u>NO</u></b>	
	INTERPOLATED INTERIOR [v3]  References: 7.7.43	Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any limits on the number of stages?  Any restrictions on the set of values? (choose 1 or both) <b><u>NO</u></b> values 1..3: <b><u>NO</u></b> subset of registered values (attach list):  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the number of stages? <i>Maximum number of stages is 8.</i>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> values 1..3: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None.</i>
	T.20.44	Same as Model Profile <b><u>NO</u></b>	
	EDGE CAP [v3]  References: 7.7.44 9.5.7.5 T.26.7	Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the set of values for the edge cap indicator? (choose 1 or both) <b><u>NO</u></b> values 1..5: <b><u>NO</u></b> subset of registered values (attach list):  Any restrictions on the set of values for the dash cap indicator? (choose 1 or both) <b><u>NO</u></b> values 1..3: <b><u>NO</u></b> subset of registered values (attach list):  Other:	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values for the edge cap indicator? (choose 1 or both) <b><u>YES</u></b> values 1..5: <b><u>NO</u></b> subset of registered values (attach list):  Any restrictions on the set of values for the dash cap indicator? (choose 1 or both) <b><u>YES</u></b> values 1..3: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None.</i>

**Table 20 - Attribute elements(continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.45  EDGE JOIN [v3]  References: 7.7.45 9.5.7.5 T.26.7	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>NO</u></b> values 1..4: <b><u>NO</u></b> subset of registered values (attach list):  Other:	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? (choose 1 or both) <b><u>YES</u></b> values 1..4: <b><u>NO</u></b> subset of registered values (attach list):  Other: <i>None.</i>
	T.20.46  EDGE TYPE CONTINUATION [v3]  References: 7.7.46 9.5.7.5 T.26.7	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the set of values?  Other:	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the set of values? <i>1..4.</i>  Other: <i>None.</i>
	T.20.47  EDGE TYPE INITIAL OFFSET [v3]  References: 7.7.47	Same as Model Profile <b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter value?  Other:	<b><u>NO</u></b>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter value? <i>None.</i>  Other: <i>None.</i>

**Table 20 - Attribute elements (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.20.48	Same as Model Profile <b><u>YES</u></b>	
	SYMBOL LIBRARY INDEX [v3]  References: 7.7.48 9.5.4.2 T.16.23	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Every referenced index shall refer to an entry in the SYMBOL LIBRARY LIST (see T.16.23).  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Every referenced index shall refer to an entry in the SYMBOL LIBRARY LIST (see T.16.23).  Other: <i>This element is prohibited because SYMBOL LIBRARY LIST is prohibited.</i>
	T.20.49	Same as Model Profile <b><u>YES</u></b>	
	SYMBOL COLOUR [v3]  References: 7.7.49 9.5.4.1 T.14.1 T.16.23 D.4.6.21	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The <i>symbol colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  The <i>symbol colour specifier</i> parameter shall follow the rules for colour, clause 9.5.4.1 and T.14.1.  Any restrictions on the parameter value?  Other: <i>This element is prohibited because SYMBOL LIBRARY LIST is prohibited.</i>
	T.20.50	Same as Model Profile <b><u>YES</u></b>	
	SYMBOL SIZE [v3]  References: 7.7.50 T.16.23	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Is value zero allowed: (yes/no) If yes, specify its meaning.  Any restrictions on the parameter value?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Is value zero allowed: (yes/no) If yes, specify its meaning.  Any restrictions on the parameter value?  Other: <i>This element is prohibited because SYMBOL LIBRARY LIST is prohibited.</i>

**Table 20 - Attribute elements(continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.20.51  SYMBOL ORIENTATION [v3]  References: 7.7.51 T.16.23 D.4.6	Same as Model Profile <b><u>YES</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on rotation?  Any restrictions on skewing?  Any restrictions on mirroring?  Any restrictions on distortion of aspect ratio?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on rotation?  Any restrictions on skewing?  Any restrictions on mirroring?  Any restrictions on distortion of aspect ratio?  Other: <i>This element is prohibited because SYMBOL LIBRARY LIST is prohibited.</i>

**Table 21 - Escape elements**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.21.1  ESCAPE [v1]  References: 7.8.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  List all registered ESCAPEs that are allowed:  List all profile-defined ESCAPEs that are allowed and attach complete description:  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  List all registered ESCAPEs that are allowed: <i>ESCAPE 22, Transparent Cell Colour [v1/v2] metafiles only.</i>  List all profile-defined ESCAPEs that are allowed and attach complete description: <i>None.</i>  Other: <i>None.</i>

**Table 22 - External elements**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.22.1	Same as Model Profile <b><u>NO</u></b>	
	MESSAGE [v1]  References: 7.9.1	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>Values of the <i>action required flag</i> parameter:            'action' Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b>            (If permitted, specify the messages and actions taken)            'no action' Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Any restrictions on the length of the message string, other than those for type SF parameter?</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Values of the <i>action required flag</i> parameter:            'action' Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>            (If permitted, specify the messages and actions taken)            'no action' Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Any restrictions on the length of the message string, other than those for type SF parameter? <i>None.</i></p> <p>Other: <i>None.</i></p>
	T.22.2	Same as Model Profile <b><u>NO</u></b>	
	APPLICATION DATA [v1]  References: 7.9.2	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b></p> <p>The use of this element shall not be restricted.</p> <p>Attach a syntactic and semantic description of all application data elements associated with this profile.</p> <p>Other:</p>	<p>Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>The use of this element shall not be restricted.</p> <p>Attach a syntactic and semantic description of all application data elements associated with this profile.</p> <p>Other: <i>None.</i></p>

**Table 23 - Segment elements**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.23.1	Same as Model Profile <b><u>NO</u></b>	
	COPY SEGMENT [v2]  References: 7.10.1 D.4.9.2	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Every segment identifier shall refer to a defined segment.  Any limits on the segment transformation application value?  Any restrictions on the nature of the transformation (e.g., permitting only isotropic transformations)?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Every segment identifier shall refer to a defined segment.  Any limits on the segment transformation application value? <i>None.</i>  Any restrictions on the nature of the transformation (e.g., permitting only isotropic transformations)? <i>Non-singular.</i>  Other: <i>None.</i>
	T.23.2	Same as Model Profile <b><u>NO</u></b>	
	INHERITANCE FILTER [v2]  References: 7.10.2	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any limits on the filter selection list?  Any limits on the selection setting?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the filter selection list? <i>None.</i>  Any limits on the selection setting? <i>None.</i>  Other: <i>None.</i>
	T.23.3	Same as Model Profile <b><u>NO</u></b>	
	CLIP INHERITANCE [v2]  References: 7.10.3 D.4.9.2	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any limits on the parameter?  Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any limits on the parameter? <i>None.</i>  Other: <i>None.</i>

**Table 23 - Segment elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.23.4	Same as Model Profile <b><u>NO</u></b>	
	SEGMENT TRANSFORMATION [v2] References: 7.10.4	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Any restrictions on the nature of the transformation (e.g., permitting only isotropic transformations)? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Any restrictions on the nature of the transformation (e.g., permitting only isotropic transformations)? <i>Non-singular.</i> Other: <i>None.</i>
	T.23.5	Same as Model Profile <b><u>NO</u></b>	
	SEGMENT HIGHLIGHTING [v2] References: 7.10.5	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Any restrictions on the parameter values? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Any restrictions on the parameter values? <i>None</i> Other: <i>None.</i>
	T.23.6	Same as Model Profile <b><u>NO</u></b>	
	SEGMENT DISPLAY PRIORITY [v2] References: 7.10.6	Element is: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b> Any restrictions on the parameter values? Other:	Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b> Any restrictions on the parameter values? <i>None</i> Other: <i>None.</i>

**Table 23 - Segment elements (continued)**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.23.7  SEGMENT PICK PRIORITY [v2]  References: 7.10.7	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>YES</u></b>  Any restrictions on the parameter values?  Other:	<div style="background-color: black; height: 20px; width: 100%;"></div> Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Any restrictions on the parameter values? <i>None.</i>  Other: <i>None.</i>

**Table 24 – Application structure descriptor elements**

Remarks	Element	Specifications - PPF	Specifications - Model Profile
	T.24.1  APPLICATION STRUCTURE ATTRIBUTE [V4]  References: 6.9 6.13.5 7.9.2 7.11.1	Same as Model Profile <b><u>NO</u></b>  Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Define the set of structure attribute elements for use within application structures, and attach complete syntactic and semantic description:  Attribute type parameter shall be unique within the scope of the application structure  Attribute types restricted to those defined in 3. Attribute values limited to a subset of SDR data types as defined in 3.  Other: See Table 27 for a definition of specific element in this structure for GeoSym	Element: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Define the set of structure attribute elements for use within application structures, and attach complete syntactic and semantic description: <i>None</i> .  Other: <i>None</i> .

**Table 25 – Generator implementation requirements**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	<p>T.25.1</p> <p>Colour requirements</p> <p>References: 9.5.4.1 9.5.6.2.1</p>	<p>Same as Model Profile <b><u>YES</u></b></p> <p>Element: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Reduction of the number of colours?</p> <p>Definition of mapping algorithms, metrics, and colour space?</p> <p>For [v1/v2] metafiles, implicit colour calibration specification?</p> <p>Other:</p>	<p>Element: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Reduction of the number of colours? <i>Not specified.</i> <i>NOTE - If mapping of application colours to metafile colour specification is required. It is recommended that colour distance in the mapping be computed by the Euclidean metric in CIEXYZ space.</i></p> <p>Definition of mapping algorithms, metrics, and colour space? <i>No specific colour mapping techniques or selection of metafile colour sets are defined.</i></p> <p>For [v1/v2] metafiles, implicit colour calibration specification? <i>No specifications are defined.</i></p> <p>Other: <i>None.</i></p>
	<p>T.25.2</p> <p>Geometric accuracy and latitude</p> <p>References: 9.5.6.2.2</p>	<p>Same as Model Profile <b><u>YES</u></b></p> <p>Accuracy and latitude for mapping application graphics to CGM graphical primitive elements:</p>	<p>Accuracy and latitude for mapping application graphics to CGM graphical primitive elements: <i>Generators shall produce a metafile whose graphical primitive elements match the application graphical primitives accurately to within plus/minus 0.1% of relative position within the VDC Extent box or plus/minus ½ pixel of the intended size, whichever is greater. Generators shall produce geometric size aspects of the primitives (e.g., text size, line width, and edge width) to within 1% of the intended size or plus/minus ½ pixel of the intended size, whichever is greater.</i></p> <p><i>This requirement shall apply to all graphical primitive elements, unless superseded by specific element requirements in this clause.</i></p>

**Table 25 - Generator implementation requirements (continued)**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.25.3  Text accuracy and latitude  References: 9.5.6.2.3	Same as Model Profile <b><u>YES</u></b>  Is text accuracy and latitude addressed? (yes/no) If yes, specify.	<b>[REDACTED]</b>  Is text accuracy and latitude addressed? (yes/no) <i>Yes.</i> If yes, specify. <i>Metafile text specifications shall match the text of the application picture to within plus/minus 1% of relative to the intended size or plus/minus 1/2 pixel of the intended size, whichever is greater, for the placement and overall extent of each text string.</i>
	T.25.4  Font substitution  References: 9.5.6.2.4 I.2	Same as Model Profile <b><u>YES</u></b>  Font substitution is: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Similarity of font visual characteristics?  Font metrics?  Individual glyph metrics?  Other:	<b>[REDACTED]</b>  Font substitution is: Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Similarity of font visual characteristics? <i>Substituted fonts shall have similar visual characteristics (e.g., posture, weight, and proportionate width).</i>  Font metrics? <i>Specified in clause I.2.</i>  Individual glyph metrics? <i>Specified in clause I.2.</i>  Other: <i>None.</i>
	T.25.5  Preservation of primitives  References: 9.5.6.3	Same as Model Profile <b><u>YES</u></b>  Is preservation of graphical primitive elements addressed? (yes/no) If yes, specify allowable substitutions.	<b>[REDACTED]</b>  Is preservation of graphical primitive elements addressed? (yes/no) <i>No.</i> If yes, specify allowable substitutions.

**Table 25 - Generator implementation requirements (continued)**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.25.6	Same as Model Profile <b><u>YES</u></b>	
	Semantic latitude  References: 9.5.6.4	<p>Drawing priority and mode: Priority shall correspond to the metafile order (i.e., primitives occurring later in the file shall overlay primitives occurring earliest in the file). Mode shall be "replacement mode".</p> <p>Clipping:</p> <p>Edge centering:</p> <p>Meaning of predefined line types and edge types:</p> <p>Meaning of predefined hatch styles:</p> <p>Other: <i>None</i>.</p>	<p>Drawing priority and mode: <i>Priority shall correspond to the metafile order (i.e., primitives occurring later in the file shall overlay primitives occurring earliest in the file). Mode shall be "replacement mode".</i></p> <p>Clipping: <i>Clipping shall be to the intersection of the clip rectangle, the VDC EXTENT, the device viewport, and the device view surface limits.</i></p> <p>Edge centering: <i>Edges shall be centered on the ideal mathematically-defined edge of the area.</i></p> <p>Meaning of predefined line types and edge types: <i>The exact on-off definitions for the predefined line types and edge types are not specified.</i></p> <p>Meaning of predefined hatch styles: <i>The inter-line spacing is not specified. Use the latitudes of annex D.4.6.16 for the angular directions.</i></p> <p>Other: <i>None</i>.</p>
	T.25.7	Same as Model Profile <b><u>YES</u></b>	
	Error processing  References: 9.5.6.5	<p>Is error processing addressed? (yes/no) If yes, specify the action taken. Classification of error severity? Requirements for error recovery? Requirements for error reporting? Additional areas?</p> <p>Other:</p>	<p>Is error processing addressed? (yes/no) <i>No</i>. If yes, specify the action taken. Classification of error severity? Requirements for error recovery? Requirements for error reporting? Additional areas?</p> <p>Other: <i>None</i>.</p>

**Table 25 - Generator implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.25.8	Same as Model Profile <b><u>YES</u></b>	
	Reporting  References: 9.5.6.6	Is reporting required? (yes/no) If yes, specify action taken. Method and format of the reporting? Requirement to report substitution, error, fallback behavior, mappings, or other behaviors? Additional areas?  Other:	Is reporting required? (yes/no) <i>No</i> . If yes, specify action taken. Method and format of the reporting? Requirement to report substitution, error, fallback behavior, mappings, or other behaviors? Additional areas?  Other: <i>None</i> .
	T.25.9	Same as Model Profile <b><u>NO</u></b>	
	Degeneracies  References: 9.5.6.7 9.5.4.4 D.2 D.4	Is the generation of degenerate primitives addressed? (yes/no) Yes.  If yes, attach specifications. <i>Refer to ISO 8632-1 Annex D</i>  Other:	Is the generation of degenerate primitives addressed? (yes/no) <i>No. The generation of degenerate primitives is not restricted.</i>  If yes, attach specifications  Other: <i>None</i> .

**Table 26 - Interpreter implementation requirements**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.26.1	Same as Model Profile <b><u>YES</u></b>	
	Number of pictures References: 9.5.7.2 T.13.2	If 0 pictures are permitted (see T.13.2), describe the interpreter behavior:	If 0 pictures are permitted (see T.13.2), describe the interpreter behavior: <i>Prohibited by T.13.2.</i>
	T.26.2	Same as Model Profile <b><u>NO</u></b>	
	Empty pictures References: 9.5.7.3 T.13.3	If permitted (see T.13.3), interpreter behavior:  Prohibited : Not permitted by T.13.3 .	If permitted (see T.13.3), interpreter behavior: <i>The graphical effect shall be one picture in the background colour.</i>
	T.26.3	Same as Model Profile <b><u>YES</u></b>	
	Colour requirements  References: 9.5.4.1 9.5.4.5 9.5.7.4.2	Interpreters shall be classified as either monochrome, greyscale, or colour interpreters (depending on the colour capability of the interpreter), and shall meet the criteria in attachment 26.3.  Conversions between different colour models shall be according to the conversions in annex G.  Mapping of metafile colour to device components?  For [v1/2] metafiles, implicit colour calibration specifications?  Other:	Interpreters shall be classified as either monochrome, greyscale, or colour interpreters (depending on the colour capability of the interpreter), and shall meet the criteria in attachment 26.3.  Conversions between different colour models shall be according to the conversions in annex G.  Mapping of metafile colour to device components? <i>If mapping (to fewer colour, or greyscale, or monochrome) is required for RGB metafiles, the recommendations of annex D.3.2 shall be used.</i>  For [v1/2] metafiles, implicit colour calibration specifications? <i>No specifications are defined.</i>  Other: <i>None.</i>

**Table 26 - Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.26.4  Geometric accuracy and latitude  References: 9.5.7.4.2	Same as Model Profile <b><u>YES</u></b>  Accuracy and latitude for placement and realization of geometric aspects when geometric primitive elements are rendered.	  Accuracy and latitude for placement and realization of geometric aspects when geometric primitive elements are rendered. <i>Interpreters shall render graphical primitive elements accurately to within plus/minus 0.1% of relative position within the VDC Extent box or plus/minus 1/2 of the pixel resolution of the output device, whichever is greater. Interpreters shall render the geometric size aspect of primitives (e.g., text size, line width, and edge width) to within 1% of the intended size or plus/minus 1/2 pixel of resolution of the output device, whichever is greater.</i>  <i>This requirement shall apply to all graphical primitive elements, unless superseded by specific element requirements in this clause.</i>
	T.26.5  Text rendering  References: 9.5.7.4.3	Same as Model Profile <b><u>YES</u></b>  Is text accuracy and latitude addressed? (yes/no) If yes, specify.  Is precision of text rendering addressed? (yes/no) If yes, specify interpretation.	  Is text accuracy and latitude addressed? (yes/no) <i>Yes.</i> If yes, specify. <i>Interpreter-rendered text shall match the text specification of the metafile to within 1% relative to the intended size or plus/minus 1/2 pixel of resolution of the output device, whichever is greater, for the placement and overall extent of each text string.</i>  Is precision of text rendering addressed? (yes/no) <i>Yes.</i> If yes, specify interpreter action. <i>Interpreters shall render text using 'stroke' precision, regardless of the actual value of the TEXT PRECISION of the metafile.</i>

**Table 26 - Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.26.6	Same as Model Profile <b>NO</b>	
	Font substitution	<p>Font substitution is: Permitted <b>YES</b> Prohibited <b>NO</b> If prohibited, use the font as specified in the FONT LIST.</p> <p>If permitted, include a reference set of font and glyph metrics which correspond to the canonical instances of the substitutable font. See attached font list, clause 6.</p> <p>Are substitution methods, latitudes, and constraints addressed? (yes/no) Yes. If yes, specify.</p> <p>Similarity of font visual characteristics? <i>Substituted fonts shall have similar visual characteristics to the fonts specified in the metafile.</i></p> <p>Font metrics? <i>Substituted fonts shall have similar metrics to the fonts specified in the metafile.</i></p> <p>Individual glyph metrics? As specified in Annex I.2.</p> <p>Additional areas? None.</p> <p>Other: <b>SAMI interpreters must support one or more of the SAMI supported fonts as identified in the font list, clause 6.2. If an interpreter receives a font that it does not support it will substitute it with the closest font it has available.</b></p>	<p>Font substitution is: Permitted <b>YES</b> Prohibited <b>NO</b> If prohibited, use the font as specified in the FONT LIST.</p> <p>If permitted, include a reference set of font and glyph metrics which correspond to the canonical instances of the substitutable font. <i>See the FONT LIST element and I.2.</i></p> <p>Are substitution methods, latitudes, and constraints addressed? (yes/no) Yes. If yes, specify.</p> <p>Similarity of font visual characteristics? <i>Substituted fonts shall have similar visual characteristics to the fonts specified in the metafile.</i></p> <p>Font metrics? <i>Substituted fonts shall have similar metrics to the fonts specified in the metafile.</i></p> <p>Individual glyph metrics? <i>As specified in annex I.2.</i></p> <p>Additional areas? None.</p> <p>Other: None.</p>
	T.26.7	Same as Model Profile <b>NO</b>	
	Semantic latitude	<p>Drawing priority and mode: Same as model profile.</p> <p>View surface clearing at picture start: The surface shall not be cleared when the Begin Picture Body occurs.</p> <p>Clipping: Clipping is not supported.</p>	<p>Drawing priority and mode: <i>Priority shall correspond to the metafile order (i.e., primitives occurring later in the file shall overlay primitives occurring earliest in the file. Mode shall be "replacement" mode.</i></p> <p>View surface clearing at picture start: <i>Surface will be cleared upon the occurrence of BEGIN PICTURE BODY.</i></p> <p>Clipping: <i>When CLIP INDICATOR is 'off', clipping shall be to the intersection of the device viewport and the device view surface limits. When CLIP INDICATOR is 'on', clipping shall be to the intersection of the clip rectangle, the VDC EXTENT, the device viewport, and the device view surface limits.</i></p>
	References: 9.5.7.4.4 T.16.13 annex I.2		
	References: 9.5.7.5 T.20.37 T.20.38 T.20.39 T.20.42 T.20.44 T.20.45 T.20.46		

**Table 26- Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications – PPF	Specifications - Model Profile
	T.26.7 continued Semantic latitude	<p>Edge centering: Same as model profile.</p> <p>Meaning of predefined line types and edge types: Same as model profile.</p> <p>Meaning of predefined hatch styles: Same as model profile.</p> <p>In the absence of a LINE/TEXT/MARKER CLIPPING MODE element, the interpreter treatment of LINE/MARKER/TEXT CLIPPING MODE shall be:  <u>NO</u> In the style of one specific parameter value, from the set of standardized values. Specify which one:  <u>NO</u> In the style of any of the specific parameter values, from the set of standardized values.  <b>LINE/TEXT/MARKER CLIPPING MODE is prohibited (see T.20.6, T.20.7, T.20.8)</b></p> <p>For [v1/v2] metafiles, text restriction method for RESTRICTED TEXT elements, chosen from the set of standard and registered styles of the RESTRICTED TEXT TYPE element:  Not Permitted by Table reference T.20.42.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line cap shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE CAP element. Values = ?  <u>YES</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE CAP element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge cap shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE CAP element. Values = ?  <u>NO</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE CAP element.  <i>Not Permitted by Table reference T.20.44.</i></p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line join shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE JOIN element. Values = ?  <u>YES</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE JOIN element.</p>	<p>Edge centering: <i>Edges shall be centered on the ideal mathematically-defined edge of the area.</i></p> <p>Meaning of predefined line types and edge types: <i>The exact on-off definitions for the predefined line types and edge types are not specified.</i></p> <p>Meaning of predefined hatch styles: <i>The inter-line spacing is not specified. Use the latitudes of annex D.4.6.16 for the angular directions.</i></p> <p>In the absence of a LINE/TEXT/MARKER CLIPPING MODE element, the interpreter treatment of LINE/MARKER/TEXT CLIPPING MODE shall be (check one):  <u>NO</u> In the style of one specific parameter value, from the set of standardized values. Specify which one:  <u>YES</u> In the style of any of the specific parameter values, from the set of standardized values.</p> <p>For [v1/v2] metafiles, text restriction method for RESTRICTED TEXT elements, chosen from the set of standard and registered styles of the RESTRICTED TEXT TYPE element:  <b>Value 2.</b></p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line cap shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE CAP element. Values = ?  <u>YES</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE CAP element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge cap shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE CAP element. Values = ?  <u>YES</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE CAP element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line join shall be either:  <u>NO</u> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE JOIN element. Values = ?  <u>YES</u> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE JOIN element.</p>

**Table 26 - Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.26.7 continued Semantic latitude	<p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge join shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE JOIN element. Values = ?</p> <p><b><u>NO</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE JOIN element.</p> <p><i>Not Permitted by Table reference T.20.45.</i></p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line type continuation shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE TYPE CONTINUATION element. Values = ?</p> <p><b><u>YES</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE TYPE CONTINUATION element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge type continuation shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE TYPE CONTINUATION element. Values = ?</p> <p><b><u>NO</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE TYPE CONTINUATION element.</p> <p><i>Not Permitted by Table reference T.20.46.</i></p> <p>Other:</p>	<p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge join shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE JOIN element. Values = ?</p> <p><b><u>YES</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE JOIN element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of line type continuation shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the LINE TYPE CONTINUATION element. Values = ?</p> <p><b><u>YES</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the LINE TYPE CONTINUATION element.</p> <p>For [v1/2] metafiles, interpreter treatment of the 2 aspects of edge type continuation shall be either:</p> <p><b><u>NO</u></b> In the style of one specific parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE TYPE CONTINUATION element. Values = ?</p> <p><b><u>YES</u></b> In the style of any parameter value pair from the set of standard and registered values (excluding values 1) of the EDGE TYPE CONTINUATION element.</p> <p>Other: None.</p>

**Table 26 - Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	<p>T.26.8</p> <p>Error processing</p> <p>References: 9.5.7.6</p>	<p>Same as Model Profile <b><u>NO</u></b></p> <hr/> <p>Is error processing addressed? (yes/no) Yes. If yes, specify the action taken.</p> <p>Classification of error severity? <i>No.</i></p> <p>Requirements for error recovery? <i>Yes. The implementation for SAMI shall either ignore or substitute for any CGM element and associated parameters not supported in this profile and continue to interpret the next element supported in the CGM implementation for SAMI.</i></p> <p>Requirements for error reporting? <i>Yes, The implementation for SAMI shall report errors encountered during the input and interpretation of the CGM file.</i></p> <p>Additional areas? <i>No.</i></p> <p>Other:</p>	<p style="background-color: black; color: black;">[Redacted]</p> <hr/> <p>Is error processing addressed? (yes/no) <i>No.</i> If yes, specify the action taken.</p> <p>Classification of error severity?</p> <p>Requirements for error recovery?</p> <p>Requirements for error reporting?</p> <p>Additional areas?</p> <p>Other: <i>None.</i></p>
	<p>T.26.9</p> <p>Reporting</p> <p>References: 9.5.7.7</p>	<p>Same as Model Profile <b><u>NO</u></b></p> <hr/> <p>Is reporting required? (yes/no) <i>No.</i> If yes, specify the action taken.</p> <p>Method and format of the reporting? <i>The implementation for SAMI when encountering an error shall report at least that error(s) were encountered during the input and interpretation of the CGM file. No format is specified.</i></p> <p>Requirement to report any substitution, error, fallback behavior, mapping, or other behaviors? <i>No.</i></p> <p>Additional areas? <i>No.</i></p> <p>Other: <i>None.</i></p>	<p style="background-color: black; color: black;">[Redacted]</p> <hr/> <p>Is reporting required? (yes/no) <i>No.</i> If yes, specify the action taken.</p> <p>Method and format of the reporting?</p> <p>Requirement to report any substitution, error, fallback behavior, mapping, or other behaviors?</p> <p>Additional areas?</p> <p>Other: <i>None.</i></p>

**Table 26 - Interpreter implementation requirements (continued)**

Remarks	Functionality	Specifications - PPF	Specifications - Model Profile
	T.26.10  Degeneracies  References: 9.5.7.8 9.5.4.4 D.2 D.4	Same as Model Profile <b>YES</b>  Is the interpretation of degeneracies primitive addressed? (yes/no) .  If yes, for each primitive, specify the degeneracy including its source .  Other: <i>None</i> .	  Is the interpretation of degeneracies primitive addressed? (yes/no) <i>Yes</i> .  If yes, for each primitive, specify the degeneracy including its source (i.e., intrinsic or computational). <i>Intrinsically degenerate primitives shall be rendered as specified in annex D subsections: D.2.2, D.2.3, D.4.5.4 through D.4.5.8, D.4.5.11, and D.4.5.12. Interpreters are not required to detect computational degeneracy. If interpreters do detect computational degeneracies, they shall be rendered as specified in annex D subsections: D.2.2, D.2.3, D.4.5.4 through D.4.5.8, D.4.5.11 and D.4.5.12.</i>  Other: <i>None</i> .
	T.26.11  Transparency  References: 7.5.3 7.5.4 T.18.4	Same as Model Profile <b>YES</b>  If transparency permitted, specify:	  If transparency permitted specify interpreter behavior: <i>Interpreters shall implement the AUXILIARY COLOUR and TRANSPARENCY elements as described in the 2nd and 3rd paragraphs of the description in 7.5.4.</i>
	T.26.12  Interpretation of structures and directories  References: 7.2.18 7.3.24 7.4.20 9.5.7.10	Same as Model Profile <b>NO</b>  Any requirements on the interpretation of the application structures? <b>Interpreters shall produce the correct graphical results.</b>  Is application meaning associated with application structures? yes/no <b>Yes</b>  If yes, specify the interpreter action or actions for each type of structure. <b>The "Linestyle" application structure defines the characteristics of complex linear symbology. Reference 27.2</b>  Other:	  Any requirements on the interpretation of the application structures? <b>Interpreters shall produce the correct graphical results.</b>  Is application meaning associated with application structures? yes/no <b>No</b>  If yes, specify the interpreter action or actions for each type of structure.  Other: <i>None</i> .

**Table 26 - Interpreter implementation requirements (continued)**

<b>Attachment 26.3</b>		
<b>Colour requirements, Model Profile:</b>		
The colour mapping step (CMS) and colour rendering step (CRS) for each class of interpreters is as follows:		
monochrome:	CMS	all foreground information is mapped to one colour, background information to another colour.
	CRS	all foreground information is mapped to one colour, background information to another colour.
greyscale:	CMS	32 grey levels, the recommendations of annex D.3.2 is used to map colour to grey
	CRS	a unique representation of each of the levels of grey.
full colour:	CMS	5R,9G,5B grid of RGB colour cube, plus a 32 grey levels (0-1), some of which are already on the grid.
	CRS	a unique representation of the 254 (255) "colours".

**Table 27 – GeoSym Specific Application Structure Attributes**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.1	Same as Model Profile <u>N/A</u>	
	IC_Color Name Table [v4] References:	Element is: Required <b>YES</b> Permitted <b>NO</b> Prohibited <b>NO</b> Description: Format: BEGAPS "IC_ColorNameTable" "IC_ColorNameTable" STLIST;	
	T.27.1.1	Same as Model Profile <u>N/A</u>	
	IC_Color Names [v4] References: T.27.1	Element is: Required <b>YES</b> Permitted <b>NO</b> Prohibited <b>NO</b> Description: Color token names Type: 14 string # of values: 106 Format: APSATTR "IC_ColorNames" ' 14 106 "white" "black" "yellow" "magenta" "cyan" "blue" "green" "red" "ADINF" "acro-blue" "APLRT" "ARPAT" "not-used1" "beige-rose" "blue_3" "blue_4" "blue31" "CHBLK" "CHBRN" "CHCOR" "CHGRD" "CHGRF" "CHGRN" "CHMGD" "CHMGF" "CHRED" "CHWHT" "CHYLW" "CSTLN" "CURSR" "dark-beige" "dark-green" "dark-magenta" "dark-red-brown" "dark-tan" "dark-yellow" "DEPCN" "DEPDW" "DEPIT" "DEPMD" "DEPMS" "DEPSC" "DEPVS" "DNGHL" "ISDNG" "LANDA" "LANDF" "light-beige" "light-tan" "lite-red-brown" "LITGN" "LITRD" "LITYW" "med-beige" "med-purple" "med-red-brown" "med-rose" "med-tan" "NINFO" "NODTA" "OUTLL" "OUTLW" "PLRTE" "PSTRK" "RADHI" "RADLO" "RES01" "RES02" "RES03" "BKAJ1" "BKAJ2" "RESBL" "RESGR" "not-used2" "SCLBR" "SHIPS" "SNDG1" "SNDG2" "SYTRK" "TRFCD" "TRFCF" "UIAFD" "UIAFF" "UIBCK" "UIBDR" "UINFB" "UINFD" "UINFF" "UINFG" "UINFM" "UINFO" "UINFR" "opgreen" "purple21" "purple42" "blu100" "red-brown100" "red-brown54" "red12-brown21" "green21" "brown21" "brown7" "tan-BUA" "olive-green" "midnight-blu" "steel-blu";	

**Table 27 – GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.2  Line Style [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Name given to the line style</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>BEGAPS “[cgm file name without extension].1” “LineStyle” STLIST;</p> <p>Example:</p> <p>BEGAPS “0613.1” “LineStyle” STLIST;</p>	
	T.27.3  Line Style Component [v4]  References: T.27.2	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b><u>YES if Line Style is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Line Style Component identification</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>BEGAPS “[cgm file name without extension].1.Component.[component number]” “LineStyleComponent” STLIST;</p> <p>Example:</p> <p>BEGAPS “0613.1.Component.1” “LineStyleComponent” STLIST;</p> <p>Position: Within BEGAPSBODY of LineStyle (See T.26.2)</p>	

**Table 27 – GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.3.1	Same as Model Profile <u>N/A</u>	
	Line Width [v4]  References:	<p>Element is: Required <b><u>YES if Line Style is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Thickness of line</p> <p>Type: 12 real</p> <p># of values: 1                      Restrictions on values: Must be &gt; 0</p> <p>Format:</p> <p>APSATTR "LineWidth" " 12 1 [width of line]";</p> <p>Example:</p> <p>APSATTR "LineWidth" " 12 1 0.64";</p>	
	T.27.3.2	Same as Model Profile <u>N/A</u>	
	Line Color [v4]  References:	<p>Element is: Required <b><u>YES if Line Style is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Color token index; color of line</p> <p>Type: 11 index</p> <p># of values: 1                      Restrictions on values: integers -1 through 95 -1 indicates that no color was selected for the component; this is only applicable if the component consists solely of point symbols</p> <p>Format:</p> <p>APSATTR "LineColor" " 11 1 [color index]";</p> <p>Example:</p> <p>APSATTR "LineColor" " 11 1 41";</p>	



**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.3.5  Start Phase [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b><u>YES if Line Style is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b>  Description: The offset distance of the first element from the start anchor.  Type: 12 real  # of values: 1                      Restrictions on values: Must be > 0  Format:  APSATTR "StartPhase" " 12 1 [start phase]";  Example:  APSATTR "StartPhase" " 12 1 0";	
	T.27.4  Line Component Element [v4]  References: T.27.3	Same as Model Profile <u>N/A</u>  Element is: Required <b><u>YES if Line Style is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b>  Description: Line Style Element identification  Type: 14 string  # of values: 1  Format:  BEGAPS "[cgm file name without extension].1.Component.[component number].Element.[element number]" "LineComponentElement" STLIST;  Example:  BEGAPS "0613.1.Component.1.Element.1" "LineComponentElement" STLIST;  Position: Within BEGAPSBODY of LineStyleComponent (See T.26.3)	





**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.4.3  Vertical Displacement [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Description: Vertical distance between the center of the element and the projected path of the line.  Type: 12 real  # of values: 1  Format:  APSATTR "VerticalDisplacement" " 12 1 [vertical displacement]";  Example:  APSATTR "VerticalDisplacement" " 12 1 0";	
	T.27.4.4  Symbol Definition [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Description: File name of cgm point symbol.  Type: 14 string  # of values: 1  Format:  APSATTR "SymbolDefinition" " 14 1 "[symbol definition]";  Example:  APSATTR "SymbolDefinition" " 14 1 "5010.cgm";	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.4.5  Symbol Scale [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <hr/> <p>Element is: Required <b><u>YES if SymbolDefinition is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Scale factor of the IHO point component symbol.</p> <p>Type: 12 real</p> <p># of values: 1                      Restrictions on values: Must be &gt;0</p> <p>Format: APSATTR "SymbolScale" " 12 1 [symbol scale]";</p> <p>Example: APSATTR "SymbolScale" " 12 1 1";</p>	
	T.27.4.6  Symbol Orientation [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <hr/> <p>Element is: Required <b><u>YES if SymbolDefinition is present</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: IHO point symbol orientation with respect to the symbol line.</p> <p>Type: 5 coded list</p> <p># of values: 1                      Restrictions on values: 0 = constant angle 1 = tangential</p> <p>Format: APSATTR "SymbolOrientation" " 5 1 [symbol orientation]";</p> <p>Example: APSATTR "SymbolOrientation" " 5 1 1";</p>	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.4.7  Symbol Initial Angle [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b><u>YES if SymbolOrientation is set to constant</u></b> Permitted <b><u>NO</u></b> Prohibited <b><u>NO</u></b></p> <p>Description: Initial angle of the point symbol with respect to the x-axis. This attribute is only applicable if the Symbol Orientation is set to 0 for constant angle.</p> <p>Type: 12 real</p> <p># of values: 1                      Restrictions on values: Must be &gt;= 0 and &lt;= 360</p> <p>Format:</p> <p>APSATTR "SymbolInitAngle" " 12 1 [symbol angle]";</p> <p>Example:</p> <p>APSATTR "SymbolInitAngle" " 12 1 30";</p> <p><b>Note:</b> All GeoSym symbols were built using a tangential symbol orientation where orientation was applicable. Therefore, the SymbolInitAngle attribute does not appear in any of the GeoSym egms.</p>	
	T.27.5  IC_Viewport Table [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b></p> <p>Description:</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>BEGAPS "IC_ViewportTable" "IC_ViewportTable" STLIST;</p> <p><b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.</p>	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.5.1  Default [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b><u>NO</u></b> Permitted <b><u>YES</u></b> Prohibited <b><u>NO</u></b>  Description: Type: 16 virtual device coordinate  # of values: 4  Format:  APSATTR “default” “ 16 4 [coordinate 1] [coordinate 2] [coordinate 3] [coordinate 4]”;  Example:  APSATTR “default” “ 16 4 -315 -2886 16384 8761”;  <b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.6  Picture Properties [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b> Description: Type: 14 string # of values: 1 Format: BEGAPS “[cgm name specified in BEGMFJ]” “PictureProperties” STLST; Example: BEGAPS “0614” “PictureProperties” STLST; <b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.	
	T.27.6.1  Type [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b> Description: Type: 14 string # of values: 1 Format: APSATTR “Type” · 14 1 “Overlay”; <b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.6.2  Creator [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Description: User id of person creating the cgm</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>APSATTR "Creator" : 14 1 "tcbahm";</p> <p><b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.</p>	
	T.27.6.3  Date [v4]  References:	<p>Same as Model Profile <u>N/A</u></p> <p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Description: Date the cgm was created</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>APSATTR "Type" : 14 1 "[date: mm/dd/yy]"; or APSATTR "Type" : 14 1 "Unknown"</p> <p>Example:</p> <p>APSATTR "Type" : 14 1 "2/5/99";</p> <p><b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.</p>	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.6.4  Description [v4]  References:	Same as Model Profile <u>N/A</u>  Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b> Description: Description of the cgm; this was not populated for GeoSym Type: 14 string # of values: 1 Format: APSATTR "Description" ' 14 1 "[description]"; Example: APSATTR "Description" ' 14 1 "Unknown"; <b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.	

**Table 27 - GeoSym Specific Application Structure Attributes (continued)**

Remarks	Element	Specifications – PPF	Specifications - Model Profile
	T.27.6.5	Same as Model Profile <u>N/A</u>	
	Color [v4] References:	<p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Description:</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>APSATTR "Color" : 14 1 "Native";</p> <p><b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.</p>	
	T.27.6.6	Same as Model Profile <u>N/A</u>	
	Visibility [v4] References:	<p>Element is: Required <b>NO</b> Permitted <b>YES</b> Prohibited <b>NO</b></p> <p>Description:</p> <p>Type: 14 string</p> <p># of values: 1</p> <p>Format:</p> <p>APSATTR "Visibility" : 14 1 "Visible";</p> <p><b>Note:</b> This element is to be <u>ignored</u> by application software for GeoSym.</p>	