

SLOVENSKI STANDARD
SIST EN ISO 25178-72:2017/oprA1:2019
01-september-2019

**Specifikacija geometrijskih veličin izdelka (GPS) - Tekstura površine: ravna - 72.
del: XML format datoteke x3p - Dopolnilo A1 (ISO 25178-72:2017/DAM 1:2019)**

Geometrical product specifications (GPS) - Surface texture: Areal - Part 72: XML file
format x3p - Amendment 1 (ISO 25178-72:2017/DAM 1:2019)

Geometrische Produktspezifikation (GPS) - Oberflächenbeschaffenheit: Flächenhaft -
Teil 72: XML-Dateiformat x3p - Änderung 1 (ISO 25178-72:2017/DAM 1:2019)

Spécification géométrique des produits (GPS) - État de surface: Surfacique - Partie 72:
Format de fichier XML x3p - Amendement 1 (ISO 25178-72:2017/DAM 1:2019)

Ta slovenski standard je istoveten z: EN ISO 25178-72:2017/prA1

ICS:

17.040.20	Lastnosti površin	Properties of surfaces
17.040.40	Specifikacija geometrijskih veličin izdelka (GPS)	Geometrical Product Specification (GPS)

SIST EN ISO 25178-72:2017/oprA1:2019 en,fr,de

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<https://standards.iteh.ai/catalog/standards/sist/f34d37df-c416-479e-99c1-df51cb408df/sist-en-iso-25178-72-2017-oprA1-2019>

DRAFT AMENDMENT

ISO 25178-72:2017/DAM 1

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Geometrical product specifications (GPS) — Surface texture: Areal —

Part 72: XML file format x3p

AMENDMENT 1

Spécification géométrique des produits (GPS) — État de surface: Surfacique —

Partie 72: Format de fichier XML x3p

AMENDEMENT 1

ICS: 17.040.20

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Geometrical product specifications (GPS) — Surface texture: Areal —

Part 72: XML file format x3p

AMENDMENT 1

Page 3, clause 3.1.4

Replace with:

3.1.4 global coordinate system

three-dimensional, right-handed, coordinate system in which the position and orientation of the original point cloud is defined

Page 3, clause 3.1.5

Replace with:

3.1.5 view coordinate system

three-dimensional, right-handed, coordinate system in which the stored point coordinates are defined

Note 1 to entry Conversion from view coordinates (x, y, z) to global coordinates (X, Y, Z) may involve rotation and translation.

Note 2 to entry Many instruments measure the z-coordinates of surface points in the view coordinate system at pre-defined values of the respective x- and y-coordinates.

5.4.4 Vendor specific extensions

Vendor specific extensions shall be used to extend x3p-format to a custom file format. Vendor specific extensions can use any file type and any filename except the filenames defined in 5.3.

EXAMPLE A vendor specific extension could be a vendor specific xml file or any other type of file.

Page 5, clause 5.5.3.1

Replace with:

5.5.3.1 Revision

The Revision record shall contain the string "ISO 5436:2018".

Page 8, clause 5.5.3.5

Replace with:

5.5.3.5 Coordinate transformation

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The calculation of the global coordinates from the view coordinates of the stored 3D points is done using Formula (2):

$$\begin{pmatrix} X \\ Y \\ Z \end{pmatrix} = \begin{pmatrix} r_{11} & r_{12} & r_{13} \\ r_{21} & r_{22} & r_{23} \\ r_{31} & r_{32} & r_{33} \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \end{pmatrix} + \begin{pmatrix} O_x \\ O_y \\ O_z \end{pmatrix} \quad (2)$$

where

X, Y, Z global coordinates

x, y, z view coordinate

Page 10, clause 5.5.5.2.2

Replace with:

5.5.5.2.2 MatrixDimension

The MatrixDimension element shall contain the three elements SizeX, SizeY, and SizeZ defining the size of the data matrix in u , v , and w dimensions.

The names of the elements SizeX, SizeY and SizeZ may be misleading because they do not necessarily define anything directly related to x , y and z dimensions of the 3D coordinates. In datasets with incremental x and y axes the following relation between u and x , as well as between v and y and SizeY, holds:

$$x = I_x \cdot (u - 1), y = I_y \cdot (v - 1)$$

where

$$u = 1, \dots, \text{SizeX}, v = 1, \dots, \text{SizeY}$$

EXAMPLE 1 Definition of a matrix with 4×4 points and one surface layer:

<SizeX>4</SizeX> <SizeY>4</SizeY> <SizeZ>1</SizeZ>

EXAMPLE 2 Definition of a matrix for a profile data set with 10 points and two profile layers:

<SizeX>10</SizeX> <SizeY>1</SizeY> <SizeZ>2</SizeZ>

Page 13, clause 5.5.5.3.5

Replace with:

5.5.5.3.5 Binary validity file format

The binary validity file shall be written as packed array of bits. The bit index j into the packed array shall be calculated in the same way as described for the data list in 5.5.5.3.2.1 from the bit index the byte position j_8 and the bit position j_1 in the packed array shall be calculated using Formulae (3) and (4):

$$j_8 = \frac{j}{8} \quad (3)$$

$$j_1 = j - 8 \cdot j_8 \quad (4)$$

The notation $\lfloor _ \rfloor$ calculates the next smaller integer for a real number.

EXAMPLE See [Table 1](#) for a sample calculation of the indices.

Table 1 — Example calculation of byte and bit index for binary validity file

j	0	1	2	3	4	5	6	7	8	9	10	11	12	13	13	15	16
j_8	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2
j_1	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0

Page 14, clause 5.5.7

Replace with:

5.5.7 Vendor specific extensions

The VendorSpecificID element shall be used to identify extensions of the x3p file format. This tag shall contain a vendor specific ID, which is a URI created by the vendor identifying a vendor specific extension file. The URI shall consist of a worldwide unique domain name, an optional file path and the vendor specific extension file name itself. When writing an x3p file, the vendor specific extension file shall be placed in the zip-container under the given URI, replacing "." by "\" in the domain name. When reading an x3p file an unknown VendorSpecificID element can be safely ignored as well as all optional contents of the zip container. The number of VendorSpecificID elements is unbounded.

NOTE 1 Name collisions are avoided, if a unique URL is used to construct a path to the vendor specific extension file.

NOTE 2 An x3p file containing vendor specific extensions keeps full compatibility to all software able to read standard x3p files.

EXAMPLE For the VendorSpecificID (URI) "<http://www.vendor.com/mypath/myelements.xml>", the vendor specific extension file will be placed in the x3p zip-container under "www\vendor\com\mypath\myelements.xml".

Page 15, Annex A.2

Replace with:

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema targetNamespace="http://www.opengps.eu/2018/ISO5436_2" xmlns:xsd=
"http://www.w3.org/2001/XMLSchema" xmlns="http://www.opengps.eu/2018/ISO5436
_2" elementFormDefault="unqualified">
<xsd:annotation>
<xsd:documentation>
XML-implementation for ISO5436-2 file format.
```

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Andreas Walther (NanoFocus AG), Mark A. Weber (NanoFocus AG) 2007

Jörg Seewig (Technische Universität Kaiserslautern) 2018

This file is part of the openGPS(R)[TM] software library.

ISO 25178-72:2017/DAM 1:2019(E)

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```
</xsd:documentation>
```

```
</xsd:annotation>
```

```
<xsd:element name="ISO5436_2" type="ISO5436_2Type">
```

```
</xsd:element>
```

```
<xsd:complexType name="Record1Type">
```

```
<xsd:sequence>
```

```
<xsd:element name="Revision" type="xsd:token" minOccurs="1" maxOccurs="1">
```

```
</xsd:element>
```

```
<xsd:element name="FeatureType" maxOccurs="1" minOccurs="1">
```

```
<xsd:simpleType>
```

```
<xsd:restriction base="xsd:token">
```

```
<xsd:whiteSpace value="collapse">
```



```

    </xsd:whiteSpace>
    <xsd:enumeration value="PRF">
  </xsd:enumeration>
  <xsd:enumeration value="SUR">
  </xsd:enumeration>
  <xsd:enumeration value="PCL">
  </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
</xsd:element>
<xsd:element name="Axes" type="AxesType" maxOccurs="1" minOccurs="1">
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ISO5436_2Type">
  <xsd:sequence>
    <xsd:element name="Record1" type="Record1Type" maxOccurs="1" minOccurs="1">
    </xsd:element>
    <xsd:element name="Record2" type="Record2Type" maxOccurs="1" minOccurs="0">
    </xsd:element>
    <xsd:element name="Record3" type="Record3Type" maxOccurs="1" minOccurs="1">
    </xsd:element>
    <xsd:element name="Record4" type="Record4Type" maxOccurs="1" minOccurs="1">
    </xsd:element>
  <xsd:element name="VendorSpecificID" type="xsd:anyURI" minOccurs="0" maxOccurs="unbounded">
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Record2Type">
  <xsd:sequence>
    <xsd:element name="Date" type="xsd:dateTime" maxOccurs="1" minOccurs="1">
    </xsd:element>
    <xsd:element name="Creator" type="xsd:token" maxOccurs="1" minOccurs="0">

```