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AMENDMENT 1
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Plastics piping systems for industrial applications — Acrylonitrile-butadiene-styrene (ABS), unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly(vinyl chloride) (PVC-C) — Specifications for components and the system — Metric series

AMENDMENT 1

Systèmes de canalisations en matières plastiques pour les applications industrielles — Acrylonitrile-butadiène-styrène (ABS), poly(chlorure de vinyle) non plastifié (PVC-U) et poly(chlorure de vinyle) chloré (PVC-C) — Spécifications pour les composants et le système — Série métrique

AMENDEMENT 1

Reference number
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Amendment 1 to ISO 15493:2003 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 3, *Plastics pipes and fittings for industrial applications.*

Plastics piping systems for industrial applications — Acrylonitrile-butadiene-styrene (ABS), unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly(vinyl chloride) (PVC-C) — Specifications for components and the system — Metric series

AMENDMENT 1

Page 2, Clause 2

Delete the following references.

ISO 12092, *Fittings, valves and other piping system components made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C), acrylonitrile-butadiene-styrene (ABS) and acrylonitrile-styrene-acrylester (ASA) for pipes under pressure — Resistance to internal pressure — Test method*

ISO 1167:1996, *Thermoplastics pipes for the conveyance of fluids — Resistance to internal pressure — Test method*

Add the following reference.

ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

Page 6, 3.4.1

Replace the footnote 3) with the following equivalence.

3) 1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm^2.

Page 8, 5.1 General

Delete the first paragraph and insert the following text.

The material from which the components are made shall be ABS, PVC-U or PVC-C, as applicable, to which are added those additives that are needed to facilitate the manufacture of pipes, fittings, valves, appurtenances and assemblies conforming to this document.

Page 8, 5.2 Hydrostatic strength properties

Add the following note after the third paragraph.

NOTE In some cases, the component manufacturer may be regarded as the raw material producer.

Page 12, Clause 11 Adhesives

Delete the two paragraphs and insert the following text.

The adhesive(s) shall be as recommended by the manufacturer of the components.

The adhesive(s) shall not cause the test assembly to fail to conform to the requirements given in the applicable annex to this document.

Page 48, C.1.5.1 Density and chlorine content

Replace Table C.1 with the following table.

Table C.1 — Density and chlorine content of PVC-C

Characteristic	Requirement[a]	Test temperature	Test method
Density, ρ (kg/m^3)	$1\,450 \leq \rho \leq 1\,650$	23 °C	ISO 3514
Chlorine content	≥55 % by mass	23 °C	ISO 1158
a Conformity to these requirements shall be declared by the raw-material producer.			

Page 48, C.1.5.2 Thermal stability

Replace the two paragraphs with the following.

For pipes, the thermal stability of the material is regarded as proven if the pipe meets the requirements of the internal-pressure test in accordance with ISO 1167-1 at 95 °C, ≥8 760 h and 3,6 MPa (for test conditions, see Table C.9).

For fittings, the thermal stability of the material is regarded as proven if the fitting meets the requirements of the internal-pressure test in accordance with ISO 1167-1 at 90 °C, ≥8 760 h and 3,1 MPa (for test conditions, see Table C.12).

Page 50, C.3.2 Dimensions of sockets for solvent cementing

Delete the following sentence.

The dimensions of tapered sockets for solvent cementing (see Figure C.4) shall be as specified in Table C.5.

Page 53, C.3.3.2.4 Diameters and lengths of tapered sockets

Delete C.3.3.2.4, including Figure C.4 and Table C.5

Page 56, C.4.1.1 Resistance to internal pressure

Replace Table C.8 with the following table.

Table C.8 — Requirements for internal-pressure testing of pipes

Characteristic	Requirement	Test conditions			Test method
		Hydrostatic (hoop) stress MPa	Time h	Number of test pieces	
Resistance to internal pressure at 20 °C	No failure during test period	43,0	≥1	3	ISO 1167-1
Resistance to internal pressure at 95 °C		5,6	≥165	3	ISO 1167-1
Resistance to internal pressure at 95 °C		4,6	≥1 000	3	ISO 1167-1

Page 58, C.4.2 Mechanical characteristics of fittings

Replace Table C.11 with the following table.

Table C.11 — Requirements for internal-pressure testing of fittings

Characteristic	Requirement	Test conditions			Test method[a]
		Hydrostatic (hoop) stress MPa	Time h	Number of test pieces	
Resistance to internal pressure at 20 °C	No failure during test period	33,6	≥1	3	ISO 1167-1
Resistance to internal pressure at 60 °C		21,1	≥1	3	ISO 1167-1
Resistance to internal pressure at 80 °C		6,9	≥1 000	3	ISO 1167-1
[a] Fittings shall be prepared and tested in accordance with ISO 1167-1.					

Page 59, C.5.1 Physical characteristics of pipes, Table C.13

Insert the following table footnote [a] to Vicat Softening Temperature.

[a] Test samples may be annealed prior to testing at conditions recommended by the manufacturer.

Page 59, C.5.2.1 General, Table C.14

Insert the following table footnote [c] to Vicat Softening Temperature.

[c] Test samples may be annealed prior to testing at conditions recommended by the manufacturer.

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