International Standard 2898/1

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Plastics — Plasticized compounds of homopolymers and copolymers of vinyl chloride — Part 1 : Designation

Plastiques — Compositions plastifiées d'homopolymères et copolymères de chlorure de vinyle — Partie 1 : Désignation

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2898/1 was developed by Technical Committe ISO/TC 61, *Plastics*, and was circulated to the member bodies in September 1976.

Plastics — Plasticized compounds of homopolymers and copolymers of vinyl chloride — Part 1 : Designation

1 Scope and field of application

This part of ISO 2898 specifies a method of designation of plasticized compounds of homopolymers and copolymers of vinyl chloride, principally as a function of their physical form, their end-use and their Shore hardness A or D. These indications may be supplemented, for the three properties listed in the table, by the figures of the corresponding classes.

ISO 2898/2 specifies the corresponding methods for the determination of these properties.

2 References

ISO 458, *Plastics — Determination of apparent shear modulus of elasticity by means of a torsion test.* [1]

ISO 527, *Plastics — Determination of tensile properties.* [2]

ISO 868, *Plastics — Determination of indentation hardness by means of a durometer (Shore hardness).*

ISO/R 1183, *Plastics — Methods for determining the density and relative density (specific gravity) of plastics excluding cellular plastics.*

ISO 2898/2, *Plastics — Plasticized compounds of homopolymers and copolymers of vinyl chloride — Part 2 : Determination of properties.*

3 Definition

For the purposes of this International Standard, the following definition applies :

plasticized compounds of polymers of vinyl chloride : Compounds based on homopolymers of vinyl chloride or copolymers with at least 50 % of vinyl chloride, or chlorinated poly(vinyl chloride), or mixtures of such polymers with each other or with other polymers, the principal ingredient of the mixtures being a polymer of vinyl chloride.

These compounds contain plasticizers and may also contain fillers, colorants, and small quantities of other ingredients such as stabilizers and lubricants.

Paste compositions (plastisols) are not included in this definition.

4 Designation

Plasticized compounds of polymers of vinyl chloride are designated by the items listed in 4.1 to 4.4 and, if required, 4.5.

4.1 The symbol PVC

4.2 One letter for the physical form.

D = dry-blend powders

G = granules

4.3 One letter for the end-use.

B = Blow moulding

C = Coating extrusion

E = General extrusion

F = Film and sheet extrusion

H = Calendering

K = Cable and wire coating

M = Injection moulding

R = Rotational moulding

1) At present at the stage of draft. (Revision of ISO/R 458.)

2) At present at the stage of draft. (Revision of ISO/R 527.)

4.4 The letter A or D and two figures representing the actual value of the Shore hardness A or D (ISO 868) with a tolerance of ± 3.

Shore A is the hardness scale normally used to designate a plasticized PVC compound, up to values of 85. The Shore D scale is used when the Shore A values exceed 85.

4.5 Three other supplementary properties may be included in the designation by adding in parentheses the appropriate class numbers given in the table, namely

a) torsional stiffness temperature at 309 MPa (i.e. TST 309) (ISO 458);

b) tensile stress at 100 % elongation (ISO 527);

c) density (ISO/R 1183).

If only one or two of these supplementary properties are designated, any undesignated property shall be indicated by "X".

5 Example

A plasticized compound of a polymer of vinyl chloride

— having the physical form of a granule,

— for use as a cable coating,

— having a Shore hardness A of 72 ± 3,

— having a torsional stiffness temperature TST 309 of −40 °C,

— having a tensile stress at 100 % elongation of 8,5 MPa, and

— having a density of 1,21 g/cm³,

is designated as follows :

pPVC GK A 72 or pPVC GK A 72 (423)

Table — Designation of supplementary properties

No.	Property[1]	Unit	Classes								
			X	1	2	3	4	5	6	7	8	9
I	**Torsional stiffness temperature at 309 MPa (TST 309)**	°C	Not designated	< −5 to −15	< −15 to −25	< −25 to −35	< −35 to −45	< −45 to −55	< −55			
II	**Tensile stress at 100 % elongation**	MPa	Not designated	⩽ 5	> 5 to 10	> 10 to 15	> 15 to 20	> 20 to 25	> 25			
III	**Density**	g/cm³	Not designated	⩽ 1,15	> 1,15 to 1,20	> 1,20 to 1,25	> 1,25 to 1,30	> 1,30 to 1,35	> 1,35 to 1,40	> 1,40 to 1,50	> 1,50 to 1,60	> 1,60

1) At 23 ± 2 °C and (50 ± 5) % relative humidity.