INTERNATIONAL STANDARD 2798

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Plastics — Designation of copolymer resins of vinyl chloride

Matières plastiques — Désignation des résines de copolymères du chlorure de vinyle

First edition — 1974-08-01

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To be included in 1060/II

UDC 678.743.22-13.001.3 **Ref. No. ISO 2798-1974 (E)**

Descriptors : plastics, vinyl chloride resins, designation.

Price based on 4 pages

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 2798 was drawn up by Technical Committee ISO/TC 61, *Plastics*, and circulated to the Member Bodies in July 1972.

It has been approved by the Member Bodies of the following countries :

Austria	Iran	Romania
Belgium	Ireland	South Africa, Rep. of
Brazil	Israel	Spain
Czechoslovakia	Italy	Sweden
Egypt, Arab Rep. of	Japan	Switzerland
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No Member Body expressed disapproval of the document.

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Printed in Switzerland

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0 INTRODUCTION

The *method of designation* of vinyl chloride copolymer resins set out in this International Standard is intended for use as the basis of a *specification.*

It is necessary to emphasise that some of the combinations of properties obtainable from the various classes in table 1 cannot be realised in practice.

1 SCOPE AND FIELD OF APPLICATION

This International Standard provides a means of designating vinyl chloride copolymer resins as a function of their structure, their chlorine content and their principal and secondary characteristics. It also provides for designating grades having characteristics important for particular end uses, including preparation of solutions.

2 REFERENCES

ISO/R 60, *Plastics — Determination of apparent density of moulding material that can be poured from a specified funnel.*

ISO 174, *Plastics — Determination of viscosity number of polyvinyl chloride resin in dilute solution.*

ISO/R 1043 and its Addenda 1 and 2, *Abbreviations (symbols) for plastics.*

ISO/R 1060, *Plastics — Designation of polyvinyl chloride resins.*

ISO/R 1158, *Plastics — Determination of chlorine in vinyl chloride polymers and copolymers.*

ISO/R 1269, *Plastics — PVC resins — Determination of volatile matter (including water).*

ISO/R 1270, *Plastics — PVC resins — Determination of ash and sulphated ash.*

ISO/R 1624, *Plastics — PVC resins — Sieve analysis in water.*

3 DEFINITION

For the purpose of this document the term **vinyl chloride copolymer resin** designates a resin in powder form, comprising a copolymer of vinyl chloride with one or more other monomers in which the vinyl chloride is the principal element.

This powder is intended to be used with necessary additives, to form a compound used in the fabrication of thermoplastic products.

It may also contain, in small quantities, non-polymerizable substances used during the process of polymerization (for example, emulsifiers or suspending agents, catalyst residues, etc.) or added deliberately in the course of polymerization and so being part of the polymerization system, in order to stabilize the resin (pre-stabilizers).

NOTE — The designation can also be used for homogeneous mixtures obtained by a mechanical process of mixing polyvinyl chloride with one or more polymers or copolymers of other monomers in which the polyvinyl chloride is the principal element, *provided it is clearly indicated that this concerns mixtures.*

TABLE 1

Designation order number	Classes									
	X	1	2	3	4	5	6	7	8	9
	PRINCIPAL CHARACTERISTICS									
	Viscosity number[2) 3)]				**ml/g**				**ISO 174**[1)]	
								70	*80*	*90*
I and II	NS[4)]	...	...	...	...	...	...	< 40	40 to 50	> 50 to 60
		01	*02*	*03*	*04*	*05*	*06*	*07*	*08*	*09*
		> 60 to 70	> 70 to 80	> 80 to 90	> 90 to 105	> 105 to 120	> 120 to 135	> 135 to 155	> 155 to 175	> 175
	Apparent bulk density (untamped)				**g/ml**				**ISO/R 60**[1)]	
III	NS[4)]	< 0,25	0,25 to 0,35	> 0,35 to 0,45	> 0,45 to 0,55	> 0,55 to 0,65	> 0,65 to 0,75	> 0,75	...	...
	Granular composition				**%**				**ISO/R 1624**[1)]	
	– retained on 0,063 mm sieve									
IV	NS[4)]	< 0,5	0,5 to 5	> 5 to 20	> 20 to 50	> 50 to 90	> 90	...	...	...
	– retained on 0,250 mm sieve									
V	NS[4)]	< 0,5	0,5 to 5	> 5 to 20	> 20 to 50	> 50 to 90	> 90	...	...	...
	Ash as sulphates				**%**				**ISO/R 1270 method B**[1)]	
VI	NS[4)]	< 0,20	0,20 to 0,40	> 0,40 to 0,80	> 0,80 to 1,60	> 1,60	...	...	...	...
	SECONDARY CHARACTERISTIC									
	Volatile matters (including water)				**%**				**ISO/R 1269**[1)]	
VII	NS[4)]	< 0,30	0,30 to 1	> 1 to 2	> 2 to 3	> 3 to 5	> 5	...	...	...

1) See clause 2.

2) *K*-values corresponding to these values can be found from the literature.

3) For viscosity number two figures are used to define the classes. For values above 60 ml/g the classes 01, 02, 03, 04, . . . correspond exactly to the classes 1, 2, 3, 4, . . . in ISO/R 1060. For values of 60 and below, three classes are included, namely 70, 80 and 90.

4) NS = not specified.

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