INTERNATIONAL STANDARD ISO 4898 : 1984/ADDENDUM 1

Published 1988-12-15

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

Cellular plastics — Specification for rigid cellular materials used in the thermal insulation of buildings

ADDENDUM 1: Phenol-formaldehyde cellular plastics (RC/PF)

Plastiques alvéolaires — Spécifications des matériaux rigides utilisés dans l'isolation thermique des bâtiments
ADDITIF 1: Mousse phénol-formaldéhyde (AR/PF)

Addendum 1 to International Standard ISO 4898 : 1984 was prepared by Technical Committee ISO/TC 61, *Plastics*.

In the listed clauses of ISO 4898 : 1984, the following amendments shall be made:

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1 Scope and field of application

After RC/PUR ... etc., add a new paragraph :

"RC/PF Based on phenol-formaldehyde resin (see 3.3)."

UDC 678.5/.8 : 405.8 : 699.86 Ref. No. ISO 4898 : 1984/Add.1 : 1988 (E)

Descriptors : buildings, thermal insulation, plastics, cellular plastics, specifications, physical properties, tests, dimensional tolerances.

Printed in Switzerland

Price based on 3 pages

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3 Definitions

Add the following sub-clause :

"**3.3 RC/PF** : A rigid cellular plastic material based on condensation products of a phenol and formaldehyde, such as resoles and novolacs, together with hardeners and other additives, for example surfactants, blowing agents and fillers.

RC/PF used for thermal insulation purposes has a cellular structure consisting substantially of closed cells (subcategory A) or with a higher content of open cells (subcategory B) which affects the thermal conductivity."

5 Physical property requirements

5.2 Subcategories

In line 4 and the note, change "tables 1 and 2" to "the tables".

5.3 Limiting quality values

Add, at the end of this sub-clause, the following paragraph:

"RC/PF materials shall conform to the limiting quality values for physical properties specified in table 3."

5.4 Burning characteristics

Add, at the end of this sub-clause, the following note :

"NOTE — Due to compositional and processing parameters, some RC/PF materials may exhibit smouldering combustion (punking)."

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8 Test methods

8.3 Compressive strength

Add, at the end of this sub-clause, the following paragraph:

"The compressive strength shall be measured in the direction normal to the surface of the board."

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8.8 Bending load

After the first sentence, insert the following sentence :

"Bending load as determined for RC/PF materials is a measure of their handling characteristics."

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Add table 3 given below:

Table 3 — Properties of RC/PF used for thermal insulation of buildings

Properties	Unit	Category (5.1) and subcategory (5.2)					Test method
		I		II		III	
		A	B	A	B	A	
Density (min.)[1), 2)]	kg/m³	30	30	40	40	60	ISO 845
Compressive strength or compressive stress at 10 % deformation (min.)	kPa	60	60	100	100	250	ISO 844
Thermal conductivity (max.) 10 °C mean/28 days min. or 23 °C mean/28 days min.	mW/(m·K)	 20 22	 35 37	 20 22	 35 37	 37 39	ISO 2581 or an absolute method
Dimensional change after 48 h at 70 °C (max.)	%	2	2	2	2	2	ISO 2796 as modified in 8.5.1
Compressive creep (max.) after 48 h at 80 °C under 20 kPa load	%	—	—	5	5	—	ISO 7616 as modified in 8.5.2
Compressive creep (max.) after 7 days at 70 °C under 40 kPa load	%	—	—	—	—	5	ISO 7616 as modified in 8.5.3
Water vapour permeability[3)] 23 °C/0 to 50 % r. h.	ng/(Pa·s·m)	12 to 1,5		6,5 to 0,5		6,5 to 0,5	ISO 1663
Bending load at break (min.)	N	15	15	25	25	35	ISO 1209 as modified in 8.8

1) Density is optional in a country that has established a system of quality identification.

2) The density of each board tested shall be no lower than 90 % of the mean value for all the boards tested.

3) A specific limiting value (maximum or minimum, depending on the application) may be selected by agreement between purchaser and supplier.

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Annex

In paragraph 2, line 2, change "tables 1 and 2" to "the tables".

Add a fourth paragraph:

"In the case of phenolic foams, no such data are yet available."

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