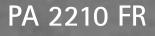


POLYMER SOLUTIONS



Material Data Sheet

PA 2210 FR

Product Description

PA 2210 FR is a composition on the basis of polyamide 12 and a halogen-free flame retardant. With its good mechanical properties and its outstanding fire properties it is mainly used in the electrical and electronics industry. PA 2210 FR is certified by Underwriters Laboratories (UL). Safety and quality are continuously tested by a third-party to ensure ongoing compliance, with an UL Recognized Component Mark on the product label. A growing market are railway applications, as PA 2210 FR fulfills several requirement sets according to EN 45545-2, the European railway standard for fire protection. The material is also used in aerospace industry, flammability compliance according to FAR 25.853 is tested for every material batch.

MAIN CHARACTERISTICS

- \rightarrow Flame-retardant
- \rightarrow Halogen-free
- \rightarrow Fire classification UL 94/V-0
- ightarrow UL certified <u>View Blue Card</u>
- → Fire classification FAR 25.853

TYPICAL APPLICATIONS

- \rightarrow Electrical and electronic parts, e. g. housings
- \longrightarrow Railway interiors, e. g. ventilation ducts
- ightarrow Aircraft interiors, e. g. air valves

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Tensile Modulus X Orientation Y Orientation Z Orientation	2500 / 2400 2500 / 2400 2300 / 2200	MPa MPa MPa	ISO 527-1/-2
Tensile Strength X Orientation Y Orientation Z Orientation	46 / 43 46 / 43 41 / 38	MPa MPa MPa	ISO 527-1/-2
Strain at Tensile Strength X Orientation Y Orientation Z Orientation	4/6 4/6 3/4	% % %	ISO 527-1/-2
Strain at Break X Orientation Y Orientation Z Orientation	4/7 4/7 3/4	% % %	ISO 527-1/-2
Flexural Modulus X Orientation	2300 / -	МРа	ISO 178
Flexural Strength X Orientation	65 / -	МРа	ISO 178

THERMAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Melting Temperature	185	°C	ISO 11357-1/-3
Temperature of Deflection under Load 1.80 MPa X Orientation Z Orientation	95 108	°C °C	ISO 75-1/-2
Temperature of Deflection under Load 0.45 MPa X Orientation Z Orientation	165 170	°C °C	ISO 75-1/-2
Flammability Test Passed, 12s ignition time Test Passed, 12s ignition time	1.7 2.0	mm mm	CS 25 / JAR25 / FAR 25 § 25-853
Smoke Density Test Passed Test Passed	1.7 2.0	mm mm	ABD 0031 (Issue:F), method: AITM 2.0007
Toxicity Test Passed Test Passed	1.7 2.0	mm mm	ABD 0031 (Issue:F), method: AITM 3.0005
Burning Behavior, 0.75 mm nom. Thickness Thickness Tested Blue Card Available	HB 0.75 Yes	class mm	ANSI/UL 94, IEC 60695-11-10, -20
Burning Behavior, 3.0 mm nom. Thickness Thickness Tested Blue Card Available	V-0 3.0 Yes	class mm	ANSI/UL 94, IEC 60695-11-10, -20

ELECTRICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Comparative Tracking Index CTI X Orientation Y Orientation Z Orientation	- / 425 - / 425 - / 450		IEC 60112
Electric Strength X Orientation Y Orientation	- / 18.1 - / 18.1	kV/mm kV/mm	IEC 60243-1
Volume Resistivity X Orientation Y Orientation	- / 1E15 - / 1E15	Ohm∙m Ohm∙m	IEC 62631-3-1
Surface Resistivity X Orientation Y Orientation	- / 1E14 - / 1E14	Ohm Ohm	IEC 62631-3-12
Dissipation Factor 100 Hz X Orientation Y Orientation	- / 1013 - / 1013	E-4 E-4	IEC 62631-2-1
Dissipation Factor 1 MHz X Orientation Y Orientation	- / 691 - / 691	E-4 E-4	IEC 62631-2-1
Relative Permittivity 100 Hz X Orientation Y Orientation	- / 3.39 - / 3.39		IEC 62631-2-1
Relative Permittivity 1 MHz X Orientation Y Orientation	- / 2.25 - / 2.25		IEC 62631-2-1

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	1.06	g/cm ³	ISO 1183-1
Powder Color	white	-	-
Components Color	white	-	-

HEADQUARTERS

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Status as of 19.08.2024. Subject to technical modifications. EOS is certified according to ISO 9001.

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