RADIFLAM S FR 309 M BK

DESCRIPTION

PA6 flame retardant extrusion grade. Halogen and phosphorus free. Deep black colour.

Suitable for parts where fire retardancy is required. Typical applications include cable conduits and cable jacketings for transportation sector. Rated V-0 at 0.4 mm according to UL-94.

ISO 1043: PA6 FR(30)

REGIONAL AVAILABILITY: North America, Europe, Asia Pacific, South and Central America, Near East/Africa

MATERIAL HANDLING AND PROCESSING

The material is delivered in moisture-proof packaging ready for processing. Maximum recommended water content for best processing is 0.10%. Typical conditions with a desiccant drier: temperature 80 ° C, dew point -20 ° C or below, time 2-4 h or more. Avoid excessive shear rates and high thermal stresses for better processing. Special care must be taken to avoid moisture absorption and contamination with other polymers when adding regrind material. Colour variation and mechanical properties reduction may occur and should always be carefully monitored.

Injection Molding Processing Parameters

Melt Temperature	Mold Temperature	Injection Speed
240 - 280°C	70 - 80°C	medium

Extrusion Temperature
240 - 260°C

PRODUCT SAFETY AND APPROVALS

For safety instruction please refer to Material Safety Data Sheet
Underwriters Laboratories Inc. certified material www.ul.com
ROHS compliant 2011/65/EU and following amendments
Certified material for railway applications according to NF F 16-101 and EN45545-3

RADIFLAM S FR 309 M BK

PROPERTY		STANDARD	UNIT	VALUE DAM*	VALUE Cond**
PHYSICAL PROPERTIES					
Density		ISO 1183	kg/m³	1160	
Moulding shrinkage - Parallel / Normal	270/70/60 [1]	ISO 294-4	%	1.0 / 1.0	
Water Absorption, immersion at 23°C	2mm	ISO 62	%	8	
Moisture Absorption 23°C - 50%RH	2mm	ISO 62	%	2	
MECHANICAL PROPERTIES					
Tensile Modulus	1mm/min	ISO 527-2/1A	MPa	3500	
Stress at Yield	50mm/min	ISO 527-2/1A	MPa	75	
Yield Strain	50mm/min	ISO 527-2/1A	%	3	
Nominal Strain at Break	50mm/min	ISO 527-2/1A	%	14	
Flexural Modulus	2mm/min	ISO 178	MPa	3300	
Flexural Strength	2mm/min	ISO 178	MPa	110	
Charpy Notched Impact Strength	+23°C	ISO 179/1eA	kJ/m²	5	
THERMAL PROPERTIES					
Melting Temperature	10°C/min	ISO 11357-1/-3	°C	220	
Heat Deflection Temperature	1.80 MPa	ISO 75/2Af	°C	75	
Heat Deflection Temperature	0.45 MPa	ISO 75/2Bf	°C	160	
Vicat Softening Temperature	50°C/h 50N	ISO 306	°C	195	
FLAMMABILITY PROPERTIES					
Flammability	0.8mm	UL 94	class	V-0	
Flammability	0.4mm	UL 94	class	V-0	
Glow Wire Flammability Index	1mm	IEC 60695-2-12	°C	960	
Glow Wire Flammability Index	2mm	IEC 60695-2-12	°C	960	
Glow Wire Ignition Temperature	1mm	IEC 60695-2-13	°C	800	
Glow Wire Ignition Temperature	2mm	IEC 60695-2-13	°C	800	
Automotive Interior Flammability	3mm	ISO 3795	mm/min	0	
Limiting Oxygen Index	23°C	ISO 4589-2	%	35	
ELECTRICAL PROPERTIES					
Volume Resistivity	500V	IEC 62631-3-1	Ohm*m	1E13	1E11
Surface Resistivity	500V	IEC 62631-3-2	Ohm	1E12	1E10
RAILWAY APPLICATION					
EN 45545-2 classification	0.75mm	EN 45545-2	-	HL1-HL2 R22	
EN 45545-2 classification	0.75mm	EN 45545-2	-	HL1-HL2-HL3 R23	
NF Classification	0.75mm	NF F16-101	-	I2/F2	

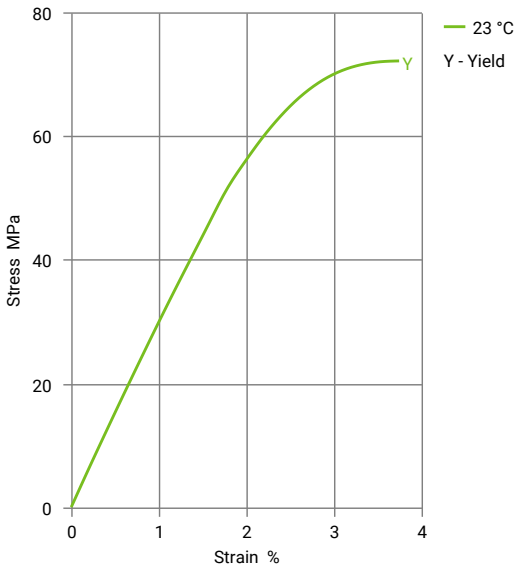
*: DAM = Dry As Moulded state according to ISO 16396-2 , **: Cond = Conditioned state similar to ISO 1110

1: Melt Temperature [°C] / Mold Temperature [°C] / Cavity Pressure [MPa]

RADIFLAM S FR 309 M BK

DIAGRAMS

Stress-strain (dry)



Secant modulus-strain (dry)