RADIFLAM A FRX 308 BK

DESCRIPTION

PA66 flame retardant injection moulding grade with enhanced mechanical properties retention after thermal aging. Halogen and phosphorus free. Black colour.

Suitable for parts where fire retardancy is required. Rated V-0 at 0.25 mm according to UL-94.

ISO 1043: PA66 FR(30)

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

Formerly Known As Marathon FRU4800XHL

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
270 - 290°C	60 - 80°C	medium

Extrusion Temperature
270 - 290°C

PRODUCT SAFETY AND APPROVALS

For safety instruction please refer to Material Safety Data Sheet
Underwriters Laboratories Inc. certified material www.ul.com
VDE certified material www.vde.com
ROHS compliant 2011/65/EU and following amendments

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PROPERTY		STANDARD	UNIT	VALUE DAM*	VALUE Cond**
PHYSICAL PROPERTIES					
Density		ISO 1183	kg/m³	1180	
Moulding shrinkage - Parallel / Normal	280/70/60 [1]	ISO 294-4	%	1.1 / 1.1	
Water Absorption, immersion at 23°C	2mm	ISO 62	%	7.5	
Moisture Absorption 23°C - 50%RH	2mm	ISO 62	%	1.7	
MECHANICAL PROPERTIES					
Tensile Modulus	1mm/min	ISO 527-2/1A	MPa	3600	
Stress at Yield	50mm/min	ISO 527-2/1A	MPa	75	
Yield Strain	50mm/min	ISO 527-2/1A	%	4.3	
Nominal Strain at Break	50mm/min	ISO 527-2/1A	%	5.5	
Flexural Modulus	2mm/min	ISO 178	MPa	3500	
Flexural Strength	2mm/min	ISO 178	MPa	120	
Charpy Impact Strength	+23°C	ISO 179/1eU	kJ/m²	40	
Charpy Notched Impact Strength	+23°C	ISO 179/1eA	kJ/m²	4.5	
THERMAL PROPERTIES					
Melting Temperature	10°C/min	ISO 11357-1/-3	°C	260	
Heat Deflection Temperature	1.80 MPa	ISO 75/2Af	°C	70	
Heat Deflection Temperature	0.45 MPa	ISO 75/2Bf	°C	200	
Vicat Softening Temperature	50°C/h 50N	ISO 306	°C	220	
Ball Pressure Hardness		IEC 60695-10-2	°C	≥200	
FLAMMABILITY PROPERTIES					
Flammability	0.2mm	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	725	
Automotive Interior Flammability	3mm	ISO 3795	mm/min	0	
Limiting Oxygen Index	23°C	ISO 4589-2	%	32	
ELECTRICAL PROPERTIES					
Volume Resistivity	500V	IEC 62631-3-1	Ohm*m	1E13	1E11
Surface Resistivity	500V	IEC 62631-3-2	Ohm	1E12	1E10
Comparative Tracking Index	Sol.A	IEC 60112	V	600	
AGEING PROPERTIES					
TI at 50% loss of Tensile Strength	5000h	ISO 2578	°C	155	
TI at 50% loss of Tensile Strength	20000h	ISO 2578	°C	125	
TI at 50% loss of Dielectric Strength	5000h	ISO 2578	°C	190	
TI at 50% loss of Dielectric Strength	20000h	ISO 2578	°C	135	

*: 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]

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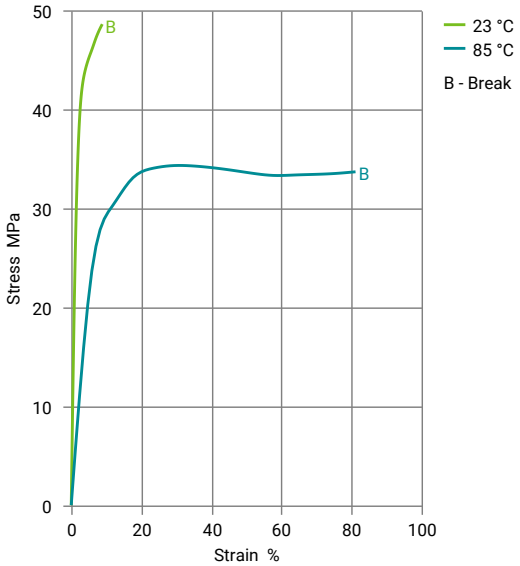
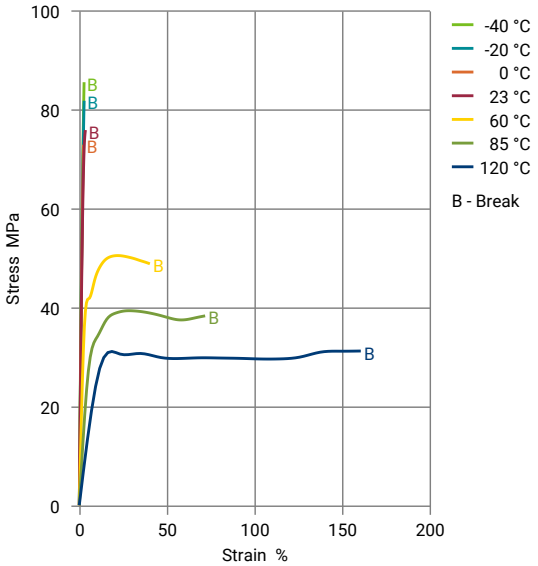
DIAGRAMS

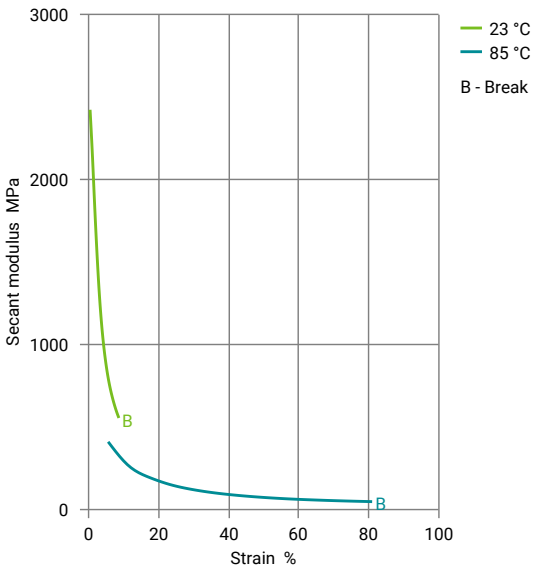
Stress-strain (cond.)



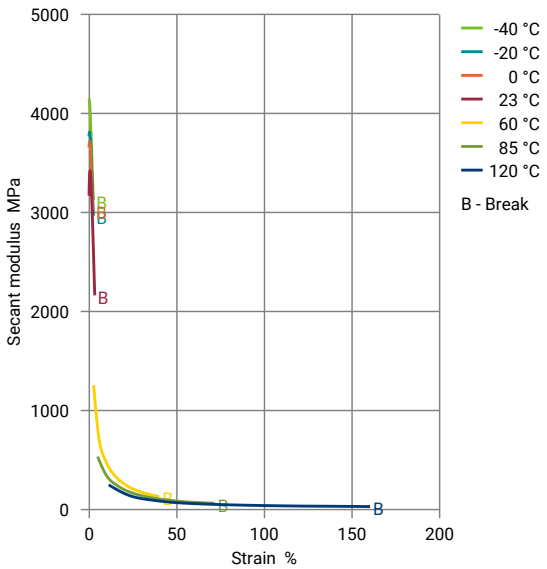
Stress-strain (dry)



Secant modulus-strain (cond.)



Secant modulus-strain (dry)



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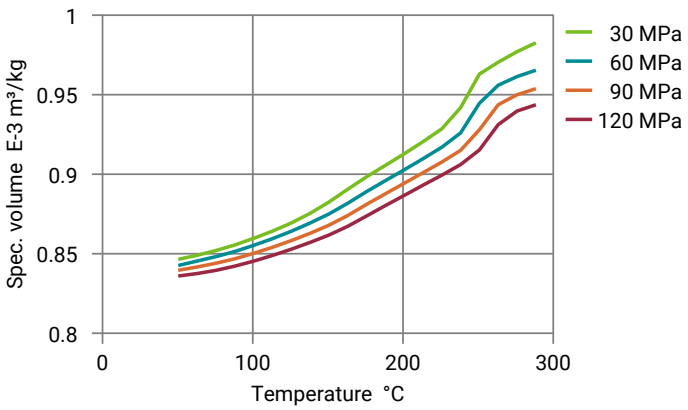
Specific volume-temperature (pvT)



Thermal expansion