

Rilsan® MA 4411

Polyamide 12

Arkema

Message:

Rilsan® MA 4411 is a Polyamide 12 (Nylon 12) product. It can be processed by extrusion, injection molding, or profile extrusion and is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Typical application: Automotive.

Characteristics include:

- Good UV Resistance
- Heat Stabilizer
- Impact Resistant
- Lubricated
- Plasticized

General Information				
Additive		Heat Stabilizer		
		Lubricant		
		Plasticizer		
Features		Good Impact Resistance		
		Good UV Resistance		
		Heat Stabilized		
		Lubricated		
Forms		Pellets		
Processing Method		Extrusion		
		Injection Molding		
		Profile Extrusion		
Multi-Point Data		Creep Modulus vs. Time (ISO 11403-1)		
		Isochronous Stress vs. Strain (ISO 11403-1)		
		Isothermal Stress vs. Strain (ISO 11403-1)		
		Secant Modulus vs. Strain (ISO 11403-1)		
		Shear Modulus vs. Temperature (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Dry	Conditioned	Unit	Test Method
Density	1030	1030	kg/m³	ISO 1183 ¹
Melt volume-flow rate (235°C/2.16 kg)	5.00	--	cm³/10min	ISO 1133 ²
Water Absorption				ISO 62 ³
Saturation	1.2	--	%	
Equilibrium	0.65	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method

Tensile modulus	555	500	MPa	ISO 527-2 ⁴
Tensile Stress (Yield)	29.0	27.0	MPa	ISO 527-2 ⁵
Tensile Strain (Yield)	23	22	%	ISO 527-2 ⁶
Nominal strain at break	> 50	> 50	%	ISO 527-2 ⁷
Impact	Dry	Conditioned	Unit	Test Method
Charpy notched impact strength				ISO 179/1eA ⁸
-30°C	4.00	6.00	kJ/m ²	
23°C	--	No Break		
Charpy impact strength				ISO 179/1eU ⁹
-30°C	No Break	No Break		
23°C	No Break	No Break		
Puncture energy (-30°C)	--	53.0	J	ISO 6603-2 ¹⁰
Puncture - maximum force (-30°C)	--	4570	N	ISO 6603-2 ¹¹
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa)	41.0	--	°C	ISO 75-2 ¹²
Melting Temperature ¹³	175	--	°C	ISO 11357-3 ¹⁴
Flammability	Dry	Conditioned	Unit	Test Method
Burning Behav. at 1.6mm nom. thickn. (1.60 mm)	HB	--		ISO 1210 ¹⁵
Burning Behav. at thickness h (3.20 mm)	HB	--		ISO 1210 ¹⁶
Oxygen index	20	--	%	ISO 4589-2 ¹⁷
NOTE				

1.

Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

2.

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3.

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4.

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6.

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7.

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8.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
9.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
10.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
11.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
12.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
13.	10 °C/min
14.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
15.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
16.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
17.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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