

## TECHNICAL DATA SHEET

# RILSAMID® MA 4411 BLACK

## POLYAMIDE 12 PELLET

RILSAMID® MA 4411 BLACK a polyamide 12 compound. This plasticized and impact-modified grade is designed for tube extrusion. It is a market standard to produce automotive fuel lines.

### DESIGNATION

PA12-IP

### MAIN APPLICATIONS

- Auto - Diesel Lines
- Auto - Gasoline Lines

### DELIVERY FORM

- Pellets

### TRANSFORMATION PROCESSES

- Extrusion - General
- Tube Extrusion

### ADDITIVES

- Heat Stabilized
- Light Stabilized

## RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Melt volume flow rate (MVR), 235°C / 5 kg (455°F / 11 lb)	14 cm <sup>3</sup> /10min	ISO 1133

## MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Hardness, Shore D, 15 s	- / 63	ISO 868
Charpy unnotched impact strength, 23°C (73°F)	- / No Break	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	- / No Break	ISO 179 1eU
Nominal strain at break, 23°C (73°F), 50 mm/min	- / > 50 %	ISO 527-1/-2
Yield strain, 23°C (73°F), 50 mm/min	- / 23 %	ISO 527-1/-2
Yield stress, 23°C (73°F), 50 mm/min	- / 25 MPa	ISO 527-1/-2
Tensile modulus, 23°C (73°F), 1 mm/min	470 / 470 MPa	ISO 527-1/-2
Charpy notched impact strength, 23°C (73°F)	No Break / No Break	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	- / 6 kJ/m <sup>2</sup>	ISO 179 1eA
Flexural modulus, 23°C (73°F)	- / 470 MPa	ISO 178

\*DRY: Dry As Molded (DAM) if pellet / Dry if powder.  
COND: Conditioned.

## THERMAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Melting temperature, 10°C/min	175 °C	ISO 11357-1/-3

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## OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Specific gravity, 23°C (73°F)	1.03 g/cm <sup>3</sup>	ISO 1183-1

## PACKAGING

This grade is delivered dried in sealed packaging ready to be processed. Available packaging:

- 25 kg / 55 lb bags

## SHELF LIFE

Two years from the date of delivery, when stored properly (sealed bags, appropriate moisture, UV protection and temperature). For any use above this limit, please refer to our technical services.

## PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 230°C / 250°C / 270°C (445°F / 480°F / 520°F)
- Typical mold temperature - Injection molding: 20-60°C (70-140°F)
- Drying time and temperature: 80-90°C (175-195°F) / 4-6 hours

## REGIONAL AVAILABILITY

Europe

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