VESTAMID®

Technical Information

VESTAMID® NRG 2101 yellow

For Gas Pipes and Fittings

VESTAMID® NRG 2101 yellow is a high molecular grade PA 12 material developed by Evonik.

Its superior performance characteristics make it an ideal choice for expanding the use of thermoplastic piping systems at higher operating pressures and larger diameters to replace metallic piping systems in a safe and cost effective manner.

Besides extending the operating pressure limits of thermoplastic piping systems, VESTAMID® NRG 2101 yellow offers many of the same benefits, and in most instances more superior performance, as conventional PE piping systems.

- Tough and durable
- Corrosion resistant
- Resistant to heavy hydrocarbons
- High resistance to Slow Crack Growth and Rapid Crack Propagation
- Increased installation efficiencies
- Worry free performance

These characteristics make the VESTAMID® NRG 2101 yellow material an ideal choice when selecting appropriate thermoplastic piping materials in extending your gas distribution infrastructure.

We recommend a processing temperature between 230°C (446°F) and 260°C (500°F) – in some cases up to 280°C (536°F) – during the injection molding and extrusion process.

The mold temperature should be within a range of 60°C (140°F) to 100°C (212°F).

Drying at 80°C (176°F) for 2 hours to 4 hours before processing is recommended.

Polyamide 12 is a high performance thermoplastic polymer with increased performance characteristics that translates into safe operations over the life of the installed pipeline. It has a considerable record of safe and proven experience in many demanding applications, including fuel lines in passenger cars, air brake tubing in trucks and off-shore applications.

For information about processing of VESTAMID® NRG 2101 please follow the „VESTAMID® NRG Processing Recommendations" flyer.

For further information please contact us at evonik-hp@evonik.com.

Properties of VESTAMID® NRG 2101 yellow

Properties		Test method	Unit	Value
Density	23°C / 73°F	ISO 1183	g/cm³	1.02
Melting range		ASTM D3418		
DSC	2nd heating		°C / °F	177 / 351
Tensile test		ISO 527-1		
Stress at yield		ISO 527-2	MPa	40
Strain at yield			%	12
Strain at break			%	> 150
Tensile modulus		ISO 527-1 ISO 527-2	MPa	1350
CHARPY impact strength		ISO 179/1eU		
	-40°C / -40°F		kJ/m²	N[1)]
Shore hardness D		ISO 868		73
Ball indentation hardness H30		ISO 2039-1	MPa	76
Vicat softening temperature		ISO 306		
Method A	10 N		°C / °F	170 / 338
Hydrostatic design basis (HDB)				
	23°C /73°F		psi	3150
	60°C /140°F		psi	2000
Minimum required strength (MRS)		ISO 12162		
	20°C /68°F	ISO 9080	MPa	18
PENT, 2.4 MPa stress	80°C /176°F	ASTM F1473	h	> 2000
RCP-FST critical pressure		ISO 13477		
110mm SDR 11	0°C /32°F		bar	30
RCP-S4 critical pressure		ISO 13477		
110mm SDR 11	0°C /32°F		bar	2.7
Slow crack growth (SCG),20 bar		ISO 22621		
80°C /176°F 20% notched		ISO 13479	h	> 2000

1) N = No break

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

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