

CERTIFICATE

This is to certify that **NELTEX Development Co., Inc.** is producing **Neltex PP-R PN20** with sizes 20mm, 25mm, 32mm, 40mm, 50mm, 63mm, 75mm, 90mm, 110mm with effective length of 4 meters.

Neltex PP-R PN20 are inspected and tested in conformance to ISO 15874: Plastic Piping Systems for Hot and Cold Water Installations.

This certification is being issued for whatever legal purposes it may serve.

Neltex Development Company Incorporated



Reynaldo C. Degollado
QA Manager

TECHNICAL SPECIFICATION

PRODUCT	Neltex PP-R PN20
REFERENCE STANDARD	ISO 15874: Plastic Piping Systems for Hot and Cold Water Installations.

A. DIMENSIONS

Nominal Pipe Size (mm)	Outside Diameter (mm)	Wall Thickness (mm)	Effective Length (meters)
20	20.00 ~ 20.30	3.40 ~ 3.90	4
25	25.00 ~ 25.30	4.20 ~ 4.80	4
32	32.00 ~ 32.30	5.40 ~ 6.10	4
40	40.00 ~ 40.40	6.70 ~ 7.50	4
50	50.00 ~ 50.50	8.30 ~ 9.30	4
63	63.00 ~ 63.60	10.5 ~ 11.70	4
75	75.00 ~ 75.70	12.50 ~ 13.90	4
90	90.00 ~ 90.90	15.00 ~ 16.7	4
110	110.00 ~ 111.00	18.30 ~ 20.3	4

B. PHYSICAL PROPERTIES

Property	Standard Requirement	Test Method
Resistance to Internal Pressure (water in water)	No failure during the test period with the following hoop stress: a. 20°C, 1hr, 16MPa b. 95°C, 22hrs, 4.3MPa c. 95°C, 165hrs, 3.8MPa d. 95°C, 1000hrs, 3.5MPa	EN 921: 1994 Plastic Piping Systems – Thermoplastic Pipes – Determination of Resistance to internal pressure at Constant Temperature
Thermal Stability by Hydrostatic Pressure Testing (Water in air)	No bursting during test period: 1.9MPa hoop stress, 110°C	EN 921: 1994 Plastic Piping Systems – Thermoplastic Pipes – Determination of Resistance to internal pressure at Constant Temperature

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DEVELOPMENT CO., INC.

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Property	Standard Requirement		Test Method
Longitudinal Reversion	Wall thickness: $\leq 8\text{mm}$	2% maximum after 1 hour at 135°C	EN 743: 1994 Plastic piping and ducting systems – Thermoplastic pipes – Determination of the Longitudinal Reversion
	Wall thickness: $>8\text{mm}$ $\leq 16\text{mm}$	2% maximum after 2 hours at 135°C	
Impact Resistance	< 10% Breakage Rate of Tested Samples		ISO 9845 Thermoplastic pipes for the transport of fluids – Determination of Pendulum Impact Strength by Charpy Method
Melt Flow Rate (pipe)	30% maximum difference compared with compound at 230°C , 2.16 kg		ISO 1133 Plastics – Determination of the Melt Mass flow rate (MFR) and the melt volume flow rate (MVR) of thermoplastics.


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 QA Manager