

### CERTIFICATE

NELTEX Development Co., Inc. is producing Nexpipe electrical uPVC conduit pipes with sizes ranging from 20 to 160 mm. Below are the dimensional specifications:

Nominal Outside Diameter	Mean Outside Diameter (mm)	Wall Thickness (mm)	Effective Length (Meter)
20mm	20.0 – 20.2	2.20 – 2.62	3M
25mm	25.0 – 25.2	2.30 – 2.73	3M
32mm	32.0 – 32.2	2.40 – 2.84	3M
40mm	40.0 – 40.2	2.40 – 2.84	3M
50mm	50.0 – 50.2	2.40 – 2.87	3M
63mm	63.0 – 63.2	2.50 – 2.98	3M
75mm	75.0 – 75.3	2.90 – 3.39	3M
90mm	90.0 – 90.3	3.50 – 4.02	3M
110mm	110.0 – 110.4	4.20 – 4.82	3M & 6M
160mm	160.0 – 160.4	6.10 – 6.91	3M & 6M

Neltex UPVC electrical conduit pipes are inspected and tested in conformance to PNS 14:1983 Standard (Amendment 01:1987): uPVC Electrical Conduit Specifications. Below is the summary of the Physical and Mechanical Properties that is complied by Neltex UPVC electrical conduits:

Properties	Standard Requirement	Test Method
Vicat Softening Temperature	76 °C min	ISO 2507
Heat Reversion	5% max	ISO 2505
Water Absorption	40 g/m <sup>2</sup> max	ISO 2508
Tensile Strength at 28 °C	27.5 MPa min	ISO 6259
Elongation at break	15% min	ISO 6259
Resistance to Acetone	No sign of delamination or disintegration	ISO 3472
Resistance to Burning	Flame shall extinguish itself in less than 30s after removal of flame	PNS 14
Resistance to External Blows	True impact rate shall not exceed 10%	ISO 3127
Flattening	No evidence of splitting, cracking or breaking when flattened to 40% of the outside diameter	ASTM D2241
Dielectric strength	No breakdown when subjected to a voltage of 2000V of substantially sine-wave form and having a frequency of 60Hz for 15 min between electrodes	PNS 14

Prepared by:

  
M. R. Mercado  
QA Officer

# NELTEX

## DEVELOPMENT CO., INC.

### LABORATORY TEST RESULT

**PRODUCT: Nexpipe Electrical uPVC Pipes**

#### A. Dimension - Reference Standard PNS 14

Pipe Size	Outside Diameter		Wall thickness		Remarks
	Standard	Result	Standard	Result	
20mm	20.0 - 20.2mm	20.0 - 20.1mm	2.20 - 2.62mm	2.26 - 2.29mm	Passed
25mm	25.0 - 25.2mm	25.1 - 25.18mm	2.30 - 2.73mm	2.32 - 2.55mm	Passed
32mm	32.0 - 32.2mm	32.0 - 32.1mm	2.40 - 2.84mm	2.42 - 2.50mm	Passed
40mm	40.0 - 40.2mm	40.0 - 40.1mm	2.40 - 2.84mm	2.44 - 2.52mm	Passed
50mm	50.0 - 50.2mm	50.0 - 50.1mm	2.40 - 2.87mm	2.46 - 2.51mm	Passed
63mm	63.0 - 63.2mm	63.0 - 63.2mm	2.50 - 2.96mm	2.52 - 2.59mm	Passed
75mm	75.0 - 75.3mm	75.0 - 75.2mm	2.90 - 3.39mm	2.95 - 3.12mm	Passed
90mm	90.0 - 90.3mm	90.0 - 90.2mm	3.50 - 4.02mm	3.56 - 3.69mm	Passed
110mm	110.0 - 110.4mm	110.0 - 110.3mm	4.20 - 4.82mm	4.31 - 4.63mm	Passed
160mm	160.0 - 160.4mm	160.0 - 160.4mm	6.10 - 6.91mm	6.15 - 6.41mm	Passed

#### B. Resistance to External Blows (Impact Test) - Reference Standard ISO 3127

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	True Impact Rate (TIR) shall not exceed 10% where TIR = total no. of breaks / total no. of blows	0 - 5%	Passed

#### C. Flattening Test - Reference Standard ASTM D2241

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	No evidence of splitting, cracking or breaking when flattened to 40% of the outside diameter	No sign of splitting or cracking	Passed

#### D. Heat Reversion Test - Reference Standard ISO 2505-1

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	5% maximum after 1 hr at 150°C	2.0 - 3.5%	Passed

#### E. Resistance to Acetone - Reference Standard ISO 3472

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	No sign of delamination or disintegration after 2 hrs.	No delamination or disintegration	Passed

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## DEVELOPMENT CO., INC.

### F. Resistance to Burning - Reference Standard PNS 14

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	Flame shall extinguish itself in less than 30 seconds after removal of the flame	Self-extinguishes instantaneously	Passed

### G. Dielectric Strength - Reference Standard PNS 14

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	No breakdown when subjected to a voltage of 2000V of substantially sine wave form and having a frequency of 60Hz for 15 min between electrodes	No breakdown	Passed

### H. Vicat Softening Temperature - Reference Standard ISO 2507

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	76 °C minimum	87.5 °C	Passed

### I. Water Absorption - Reference Standard ISO 2508


Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	40 g/m <sup>2</sup> maximum	7.43 g/m <sup>2</sup>	Passed

### J. Tensile Strength - Reference Standard ISO 527-1

Pipe Size	Standard Requirement	Result	Remarks
20 - 160mm	27.5 MPa minimum	44.7 - 45.1 MPa	Passed

We hereby certify that the above physical and mechanical laboratory test results are true and correct as contained in the quality records of the company.

Test Verified by:

  
**Marjorie R. Mercado**

QA Officer

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