

## TECHNICAL DATA SHEET

# White Cross

Date: 30-11-2013  
Revision: 01



### **Introduction:**

High Density Polyethylene is a thermoplastic material which is supplied by the manufacturer in a 'ready to use' pelletised form. The grade suitable for making Cross is Reliance HDPE, grade HD 50MA 180, N 1310567.

### **Application:**

For maintaining accurate space in Tile laying of floors and balconis etc.

### **Material used :**

High Density Polyethylene Homopolymer (HDPE)

### **Colour :**

White or as per customer's requirement.

### **Advantages / Characteristics :**

Cross provide all sizes of ceramic tiles, porcelain, stone and marble evenly spaces and help to align wall and floor tiles makes uniform grouts lines.

Very convenient way of keeping your spacers to hand. Quickly clip over your belt, trousers etc.

Exact dimensions tile spacers are durable, washable plastic and float in water for easy cleaning.

People use spacers to keep each tile on equal distance apart as they install it on your wall, floor or countertop. When you install tile yourself, spacers make it possible to keep straight grout lines and square tiles together as the adhesive dries.

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#### Precautions :

Remove spacers after tiles have been placed but before they fully adhere. Most adhesives set in 20 to 30 minutes, but check the packaging or manufacturers notes for exact instructions. Make sure all spacers are removed and allow tiles to set completely before grouting.

#### Dimensions:

DESCRIPTION	LENGTH	WIDTH	THICKNESS	WEIGHT / 10 Pcs.
Cross 1 mm	27 mm	27 mm	1 mm	1.55g
Cross 1.5 mm	27 mm	27 mm	1.5 mm	2.46g
Cross 2 mm	16.5 mm	16.5 mm	2 mm	1.58g
Cross 3 mm	16.75 mm	16.75 mm	3 mm	2.13g
Cross 3 mm Grip	23.5 mm	23.5 mm	3 mm	15.52g
Cross 4 mm	23 mm	23 mm	4 mm	4.08g
Cross 5 mm	22.5 mm	22.5 mm	5 mm	4.83g
Cross 5 mm Grip	25 mm	25 mm	5 mm	24.60g
Cross 6 mm	24.5 mm	24.5 mm	6 mm	6.70g
Cross 8 mm	31.5 mm	31.5 mm	8 mm	11.30g
Cross 10 mm	31 mm	31 mm	10 mm	13.30g

#### MATERIAL SPECIFICATION:

**POLYMER NAME :** High Density Polyethylene Homopolymer (HDPE)

**Type :** Moulded Product

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### ***Physical and Chemical Properties:***

The properties given below are for HDPE grades used to manufacture cross. It should be noted that many of these properties are related to temperature and the duration of stress application

Property	HDPE
Surface sheet	Waxy
Appearance Cross	White
Sound produced when dropped	Medium clatter
Combustability and appearance of flame	Bright flame drops continue to burn after falling
Odour of smoke after flame is extinguished	Like candles
Nail test (Impression made by finger nails)	Impression possible
Floats in water	Yes
Notched sensitivity	No
Weather resistance	Stabilised good
Method of permanent joining	Fusion
Suitable to mechanical jointing	Yes
Stress crack sensitivity with regard to jointing with save media, e.g. water	Some
Linear expansion mm / m / °C	0.2
Thermal conductivity kcal / mh °C	0.4
Specific weight kg / cm <sup>3</sup>	0.958
Tensile strength at 20°C kp/cm <sup>2</sup>	240
Modulus of elasticity at 20°C kp/cm <sup>2</sup>	8000

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Property		Value	Unit	Test Method	Test Specimen
Density at 23°C		0.958	g/cm <sup>3</sup>	ISO 1183	10mm x 10mm x 4mm
Viscosity Number		380	ml/g	ISO 1628-3	0.1% solution of granules in decahydronaphthalene
Melt Flow Rate	MFR 190/5	0.23	g/10min.	ISO 1133	Granules sample weight 3g - 6g
	MFR 190/21.6	6.5	g/10min.		
Tensile Properties	Yield Stress	26	N/mm <sup>2</sup>	ISO 527, Test Rate 50mm/min	ISO 3167, 4mm thick (test specimen No. 3, 4mm thick according to DIN 53 455)
	Elongation at Yield Stress	10	%	ISO 527, Test Rate 50mm/min	
	Tensile modulus of Elasticity (secant between 0.05 & 0.25% strain)	900	N/mm <sup>2</sup>	ISO 527	
	Tensile creep modulus(1 hour value)	650	N/mm <sup>2</sup>	ISO 899, Test Load 2M/mm <sup>2</sup>	
	Tensile creep modulus (1000 hour value)	350	N/mm <sup>2</sup>		
Flexural Properties	Flexural creep modulus (1 min. value)	1100	N/mm <sup>2</sup>		
	Flexural stress (3.5% deflection)	20	N/mm <sup>2</sup>	ISO 178, Test Rate 2mm/min	80mm x 10mm x 4mm
Stiffness in Torsion		180	N/mm <sup>2</sup>	DIN 53447	60mm x 6.35mm x 3mm
Hardness	Ball Indentation Hardness	41	N/mm <sup>2</sup>	ISO 2039 Part 1 Test Load 132N	60mm x 6.35mm x 3mm
	Shore Hardness D (3 sec. value)	61		ISO 868	60mm x 6.35mm x 3mm
	Shore Hardness D (15 sec. value)	59		DIN 53447	60mm x 6.35mm x 3mm
Notched Impact strength acN (Test specimen from compression moulded sheet)	at 23°C	20	kJ/m <sup>2</sup>	ISO179/1eA	80mm x 10mm x 4mm
	at -30°C	10	kJ/m <sup>2</sup>		
Vicat softening point VST / B/ 50		67	°C	ISO 306	4mm sheet
Oxidation induction time	200° C in O <sub>2</sub>	>=60	mm	ISO TR 10837	granules

Note: HDPE used is free of PAH (Polycyclic Aromatic Hydrocarbons), PVC, Phthalate etc.

### Storage:

Store in cool dry, ventilated areas away from heat, sparks, flames and moisture. To prevent brittleness, store in temperature above freezing.