haogenplast lab report

April 24, 2019

Technical Data Sheet: Matrix 3D Pools Reinforced Membrane

***Product Description*:** Matrix 3D Pool membrane is a PVC single ply membrane, designed with surface Mosaic appearance,. Enhanced acrylic top coat protection layer, reinforced with Polyester scrim. Based upon EN 15836-2 2010-8

***Product characteristics*:** Matrix 3D is formulated with enhanced surface acrylic coating ensuring superior stain resistance & clean-ability properties, exceptional UV resistance, as well as dry non-slip grip.

Applications: Exclusive Matrix 3D range designed to build or renovate swimming pools with Mosaic appearance design

Properties	Units	Requirements	Test Method
Aspect		No visible defect. Color conforms to the reference	EN 1850-2
Width	mm	Declared value ± 5 mm	EN 1848-2
Length	m	≥ Declared value	EN 1848-2
Weight	g/m²	2000	EN 1849-2
Average thickness	mm	1.5 ± 5 %	EN 1849-2
Micrometric Thickness	mm	1.8 ± 8 %	EN 1849-2
Flatness	mm	≤10	EN 1848-2
Linearity of the edges	mm	≤30	EN 1848-2
Tensile strength	N/5cm	≥ 1100	EN 12311-2 Method A
Elongation	%	Between 15 and 30	EN 12311-2 Method A
Resistance to De lamination	N/50mm	≥ 100	EN 12316-2
Hot air Welding strength	N/50mm	≥ 80	EN 12316-2
Tear strength	N	≥ 180	EN 12310-2 Trapezoid
Water Absorption	%	≤1	168 h at 23°C ISO 62 Method A
Dimensional stability	%	≤ 0.5	EN 1107-2
Cold Bending	°C	≤-25	EN 495-5
Resistance to Oxidizing agents: Supper chlorination	Change of color,	gray scale ≥ 3.5	
$CaCO_3$ Evaluation Level	%	≤ 3	NF EN 14902:2005 Appendix A
Abrasion Resistance		No printing changes after 100 cycles	EN ISO 5470-1:1999 5N weight 60 tr/min
Resistance against slip		≥ 24° (31°) C level	EN 13451-1 ANNEX E

Resistance to micro-organism Soil burial		**Δm/m≤ 5% (std.) Δm/m≤ 1% (Supper.)**	**ISO 846:1997 Method D**
Resistance to Bacteria		**No stains**	**ISO 846:1997 Method C**
Resistance to artificial weathering Printed 6000 h		**gray scale ≥ 3.0 No crazing and cracks**	**EN 20105 A02 ISO 4892-2:2006 Method A Cycle 1**

Staining:

Description	Contact time	Requirements	Results		Test Method
			Before abrasion	after abrasion	
Sunflower oil + 10% carbon black paste	**24h**	**Degree ≥ 4 (superior) Degree ≥ 2 (standard)**	**5**	**5**	**Deterioration evaluation according to NF T 54-803-2 Appendix D**
Distilled water +2 % iodine	**10 min**		**5**	**5**	
Marker blue	**10 min**		**5**	**5**	
Yellow mustard	**16h**		**4**	**4**	
Sunflower oil +1% eosin Y	**10 min**		**5**	**5**	
Distilled water +0/1% methylene blue	**16h**		**5**	**5**	
Sunflower oil +1% solvent red 27	**10 min**		**4**	**4**	