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Authorised and notified according to Article 10 of the Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products

European Technical Approval No. ETA-06/0251

(Replaces the version valid from 26.02.2007

Trade name:	Protan SE, EX and EXG
Holder of approval:	Protan AS Boks 420 Brakerøya NO- 3002 Drammen Norway
Generic type and use of construction product:	System of mechanically fastened flexible roof waterproofing membranes
Valid from: to:	24.02.2012 24.02.2017
Manufacturing plant:	Protan AS Boks 420 Brakerøya NO-3002 Drammen Norway
This European Technical Approval contains:	19 pages including 4 Annexes which form an integral part of the document

Annex 1

Specifications and properties of Protan roofing membranes

Table 1.1 Measures for Protan SE range of membranes

	Protan SE			Protan EXG		Protan EX		
Thickness (mm)	1.2	1.6	1.8	1.2	1.6	1.2	1.6	1.8
Weight (kg/m^2)	1.4	1.75	2.1	1.4	1.75	1.4	1.75	2.1
Width	1 m & 2 m	1 m & 2 m	1 m & 2 m	1 m & 2 m	1 m & 2 m	1 m & 2 m	1 m & 2 m	1 m & 2 m
Roll length	20 m	20 m	20 m	20 m	20 m	20 m	20 m	20 m
Weight of glass felt				55 g/m^2				
Weight of polyester felt						180 g/m^2		

Table 1.2 Product properties for Protan SE 1.2, Protan SE 1.6 and Protan SE 1.8

ER	Clause in ETAG 006	Property	Test method	Mean value
3	5.2.3.1	Peel resistance of joints	EN 12316-2	150 N
	5.2.3.2	Shear resistance of joints	EN 12317-2	1000 N
	5.2.3.3	Resistance to tear L/T	EN 12310-2	210/210 N
	5.2.3.4	Resistance to cold folding	EN 495-5	-30 °C
	5.2.3.5	Resistance to water pressure	EN 1928	Thight
	5.2.3.6	Moisture resistance factor [1)]	EN 1931	µ=13 500
		Water vapour resistance as equivalent air layer thickness (S_d-value) [1)] a: SE 1.2 b: SE 1.6 c: SE 1.8	EN ISO 12572	a: 16 m b: 22 m c: 24,5 m
	5.2.3.7	Tensile properties L/T -Tensile strength -Elongation	EN 12311-2	1050/1050 N 15/15 %
	5.2.3.8	Resistance to static loading	EN 12730	20 kg
	5.2.3.8	Resistance to impact load at +23 °C a: SE 1.2 b: SE 1.6 c: SE 1.8	EN 12691:2006	a: 450 mm b: 600 mm c: 700 mm
4	5.2.4.1	Slipperiness	DIN 53375 (1986)	0,74/0,71 µS/µD

[1)] Limiting value; one product measured, the others calculated

Table 1.3 Product properties for Protan EX 1.2, Protan EX 1.6 and Protan EX 1.8

ER	Clause in ETAG 006	Property	Test method	Mean value
3	5.2.3.1	Peel resistance of joints	EN 12316-2	150 N
	5.2.3.2	Shear resistance of joints	EN 12317-2	1000 N
	5.2.3.3	Resistance to tear L/T	EN 12310-2	300/300 N
	5.2.3.4	Resistance to cold folding	EN 495-5	-30 °C
	5.2.3.5	Resistance to water pressure	EN 1928	Thight
	5.2.3.6	Moisture resistance factor [1)]	EN 1931	µ=13 500
		Water vapour resistance as equivalent air layer thickness (S_d-value) [1)] a: EX 1.2 b: EX 1.6 c: EX 1.8	EN ISO 12572	a: 16 m b: 22 m c: 24,5 m
	5.2.3.7	Tensile properties L/T -Tensile strength -Elongation	EN 12311-2	1100/1100 N 15/15 %
	5.2.3.8	Resistance to static loading	EN 12730	20 kg
	5.2.3.8	Resistance to impact load at +23 °C a: EX 1.2 b: EX 1.6 c: EX 1.8	EN 12691:2006	a: 500 mm b: 600 mm c: 700 mm
4	5.2.4.1	Slipperiness	DIN 53375 (1986)	0,74/0,71 µS/µD

[1)] Calculated values according to similar products

Table 1.4 Product properties for Protan EXG 1.2 and Protan EXG 1.6

ER	Clause in ETAG 006	Property	Test method	Mean value
3	5.2.3.1	Peel resistance of joint	EN 12316-2	150 N
	5.2.3.2	Shear resistance of joints	EN 12317-2	1000 N
	5.2.3.3	Resistance to tear L/T	EN 12310-2	210/210 N
	5.2.3.4	Resistance to cold folding	EN 495-5	-30 °C
	5.2.3.5	Resistance to water pressure	EN 1928	Thight
	5.2.3.6	Moisture resistance factor [1)]	EN 1931	μ=13 500
		Water vapour resistance as equivalent air layer thickness (S_d-value) [1)] a: EXG 1.2 b: EXG 1.6	EN ISO 12572	a: 16 m b: 22 m
	5.2.3.7	Tensile properties L/T -Tensile strength -Elongation	EN 12311-2	1050/1050 N 15/15 %
	5.2.3.8	Resistance to static loading	EN 12730	20 kg
	5.2.3.8	Resistance to impact load at +23 °C a: EXG 1.2 b: EXG 1.6	EN 12691:2006	a: 450 mm b: 600 mm
4	5.2.4.1	Slipperiness	DIN 53375 (1986)	0,74/0,71 μS/μD

[1)] Calculated values according to similar products

Table 1.5 Assessment of durability for Protan SE, EX and EXG

Clause in ETAG 006	Property	Method of artificial ageing	Test method	Mean value	Remarks
5.2.7.1	Testing of peel resistance	EN 1296	EN 12316-2	$\Delta \leq 11$ %	
5.2.7.1	Testing of peel resistance	EN 1296	EN 12316-2	$\Delta \geq 0$ %	
5.2.7.2	Testing of shear	EN1296	EN 12317-2	$\Delta \geq 0$ %	
5.2.7.3	Testing of tear	EN 1296	EN 12310-2	Δ = -6/0	L/T
5.2.7.4	Resistance of cold folding	EN 1297	EN 495-5	$\Delta \leq 10$ °C	Method prEN 1297 with 5000 h exposure
5.2.7.5	Determination of dimensional stability		EN 1107	-0.5/+0.5 %	