

TECHNICAL DATA SHEET

1. Unique identification code of the product-type:

Breathable roofing membrane **KRUMBER COMPLETE 135 (A)**

2. Manufacturer:

KRUMBER GROUP Marcin Tomaszewski, ul. Kościuszki 17, 95-054 Ksawerów, Polska

3. Harmonized standard:

EN 13859-1:2010, EN 13859-2:2010

1. Application:

KRUMBER COMPLETE 135 (A) is diffuse-open membrane designed as house wrap, which goes under the external roofing. Membrane **KRUMBER COMPLETE 135 (A)** is totally waterproof, protects thermal insulation against rain or snow from the outside and also it is an excellent wind barrier designed a cover walls in framed structures.

The product can be used in all ventilated and non-ventilated roofs, under a variety of roofing (eg.ceramic tile, concrete tile, metal tiles, shingles, etc.).

The membrane should be protected from direct exposure to UV radiation within one month of installation and from the effects of scattered radiation - max. within 3 months, by installation of insulation on the inside.

4. Characteristics:

Characteristics		Test metod	Unit	Declared value
Dimensions	width *	EN 1848-2	m	1,5 (-0,005/+0,005)
	length of the the roll *		m	50 (-0/+0,5)
Mass per unit area		EN 1849-2	g/m ²	150 ± 10%
Reaction to fire		EN ISO 11925-2	-	Class F
Watertightness (2 kPa)		EN 1928	-	Class W1
Watertightness after artificial ageing		EN 1296, EN 1928	-	Class W1
Resistance to tearing	in longitudinal direction	EN 12310-1	N	140 (+50;-50)
	in transverse direction		N	160 (+80;-50)
Tensile strength	in longitudinal direction	EN 12311-2	N/50mm	250 (+60;-60)
	in transverse direction		N/50mm	140 (+50;-50)
Elongation at break	in longitudinal direction		%	60 (+150;-30)
	in transverse direction		%	80 (+150;-30)
Tensile strength after artificial ageing	in longitudinal direction	EN 1296	N/50mm	200 (+60; -60)
	in transverse direction	EN 1297	N/50mm	100 (+40;-40)
Elongation at break after artificial ageing	in longitudinal direction	EN 12311-2	%	45 (+30;-30)
	in transverse direction		%	55 (+30;-30)
Air permeability		EN 12114	m ³ /(m ² x h x 50 Pa)	Max 0,05
Flexible at low temperature		EN 1109	°C	-40
Vapor permeability 23°C/85%RH		Lyssy	g/m ² x 24h	1400 (-200; +200)
Vapor permeability 38°C/90%RH		Lyssy	g/m ² x 24h	3200 (-400; +400)
Water vapor transmission		EN ISO 12572	m	0,03 (-0,015;+0,015)

*or as agreed with the customer