

PRODUCT CERTIFICATE

Certificate No C263/03
Updated on 07.03.2005

Katepal Oy

manufactures

Super- KL, Katrilli, Jazzy and Rocky Bitumen Shingles and Ridge/Eaves Sheets

Bitumen shingles (4 E 2 4) manufactured by Katepal Oy are used on roofs with a minimum slope of 1:5 (about 12 °). The shingles and ridge/eaves sheets are manufactured of **SBS modified bitumen** with glass fiber non-woven reinforcement. The appearance of the roofing can be chosen from a number of colors and shapes. The characteristics of the bitumen roofing have been tested at Technical Research Centre of Finland (VTT) according to the European Standard EN 544:1998. A summary of the characteristics is presented below:

Characteristic	Testing Method	Unit	Requirement in standard EN 544	Result
Mass of constituents ¹ - product - bitumen ² - reinforcement - granules ³	EN 544 point 7.3.1	g/m ²	Class 1 and 2: 1300 Class 1: 110 Continuous surface	4315 1430 123 1485, PASS
Geometrical properties - length, L - width, l - straightness, e - squareness, d - slit height, h	EN 544 point 7.1	mm	Max 1200 Min 300 ±2 Max 2 Max (l-45 mm)/2 = 136	1000 317 <1 <1 133
Tensile strength - longitudinal - transversal	EN 544 and EN 12311-1	N/50 mm	Class 1: min 600 Class 1: min 600	815 675
Nail shank tear resistance	EN 12310-1	N	Class 1 and 2: 100	180
Water absorption	EN 544, point 7.4.1	%	<1	0,8
Resistance to UV-radiation	EN 1297-1 (60 cycles)		No cracking or fissuring	PASS
Resistance to blistering	EN 544, point 7.4.3.3		No surface blistering	PASS
Resistance to sliding	EN 544, EN 1110	mm	Class 1: <2 (at 90 °C)	1,2
Adhesion of granules	EN 544, point 7.4.5	g	Max 1,2	< 1
Adhesive area	EN 544	%	-	50 %
External fire properties	ENV 1187 (test 2)		B _{root} (t2)	PASS ⁴

¹) Exposed area of the shingle ²) Soluble in trichloroethylene ³) Granules were sieved with a 900 mesh sieve.

⁴) Pass the B_{root}(t2) requirements on wooden and non combustible substrates with and without an bituminous underlay sheet.

According to the results all the characteristics of Katepal bitumen shingles fulfill the requirements for **the CLASS 1 of the EN 544 standard**.

This certificate is valid until 19.12.2008 on condition that the product is not essentially changed and the manufacturer and VTT have a valid quality control contract. Inquiries concerning the validity of the certificate may be addressed to VTT. Other conditions are listed on the reverse side of the certificate.

Espoo 07.03.2005



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Where reference is made in this certificate to any regulations, publications, standards or other documents, it shall be construed as a reference to such publication in the form of which it is in force at the date of this certificate.

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