

SYSTEM HORIZONTAL DOUBLE LAP SLATING

1. COMPOSITION AND MANUFACTURE

The Ardonit slates are small size double pressed fibre-cement flat sheets, composed of Portland cement, organic fibres of superior quality, mineral additives and water.



The natural colour of the slates is grey. The front and the sides of the slates are finished with a multi-layer acrylic based coating. In order to prevent moss growth, special moss inhibiting constituents are added to the coating. The underside of the slates is treated with a one layer coating and a colourless water-repellent layer. This finishing offers optimal protection against all weather conditions.

2. DIMENSIONS

Format [cm]	Ardonit Smooth	Ardonit Textured
	Production-Dimensions [mm]	
60 x 60	600x600	600x600
60 x 30	600x300	600x300

3. COLOUR RANGE

Ardonit Smooth/Textured	Ardonit Smooth
60x60	60x60
60x30	60x30

	
Blue-black	Premium black

SVK is entitled to remove or add colours without prior warning. The colour is measured according CieLab. The tolerance is: $\Delta E^* \pm 1,00$.

Important: Only slates with the same production date should be placed on the same roof/facade surface. Slates with different production dates should not be installed on the same roof/facade surfaces.

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4. MECHANICAL AND PHYSICAL CHARACTERISTICS

Dimensions	Tolerances	
Length	200 – 600 mm	± 3 mm
Width	200 – 600 mm	± 3 mm
pThickness	4 mm	- 0,4 mm / + 1,0 mm
Squareness	≤ 2 mm	

Mechanical characteristics	Norm		
Bending moment	EN 492		
$h \leq 350$ mm			30 Nm/m
$350 < h \leq 450$ mm			40 Nm/m
$450 < h \leq 600$ mm			45 Nm/m
Elasticity modulus (wet)	ca. 16.000 N/mm ²		
Thermal linear expansion coefficient	7,5 x 10 ⁻⁶ m/mK		

Durability	Norm	
Water impermeability	No water drops	
Wet-dry cycles	L ≥ 0,75	
Warm water	L ≥ 0,75	
Frost-thaw cycles	L ≥ 0,75	
Warm-rain cycles	pass	

Reaction to fire	Norm	
Fire reaction class	A2-s1, d0	EN 13501-1

Physical characteristics	Norm	
Density – oven dry	$\rho \geq 1.700$ kg/m ³	
Weight (at moisture content: 12%)	8 kg/m ²	
Coefficient of heat conductivity:: λ	0,72 W/mK	
Water uptake (coated slates)	< 4% (Weight)	
Paint adhesion	Class 0	EN ISO 2409

5. QUALITY



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84 avenue Jean Jaurès -
Champs sur Marne
F-77447 Marne-la-Vallée



Ardoises en fibres ciment
<http://evaluation.cstb.fr>

6. PRINCIPLE

This method is a variation to the double-lap method. The rectangular slates are placed horizontally here.

This method can be applied for both **facade cladding** and **roofing** in normal situations.

The minimum pitch is 27.5°, measured on the slate.

The recommendations apply for rafter lengths of maximum 9m in driving rain exposure of less than 56.5 l/m² per spell and 6 m in driving rain exposures of 56.5 l/m² per spell or more.

The recommendations for laps given below might not be adequate for roof pitches of **30° or less**:

- for driving rain exposure of less than 56.5 l/m² per spell, for rafter lengths greater than 9m;
- for driving rain exposure of 56.5 l/m² per spell or greater, for rafter lengths greater than 6m.

In this case the placement of a sub-roof and/or intermediate gutters should be considered.

The minimum slate width is determined by several factors: the slate length, the head-lap, the roof pitch, the driving rain exposure and the distance from the side edge of the slate to the inner nail hole. Calculation needs to be done according to BS 5534.



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7. MINIMUM HEAD-LAP – ROOF PITCH

- The minimum vertical head-lap [A] in mm (according to BS 5534) for following roof pitches is:

Roof pitch [°]	Minimum head-lap [cm]	
	<56.5 l/m ² per spell rafter length ≤ 9 m	≥56.5 l/m ² per spell rafter length ≤ 6 m
27.5 - 30	10	11
30 - 75	10	10
≥ 75	5	5

8. FIXING

The slate 60x30 is fixed with 3 jagged nails.

For the position of the middle fixing, one should take the driving wind direction into account. The slates need to be pre-pinned (position of the holes, see drawings in the table below).

9. DIMENSIONS OF THE BOTTOM SLATES AND THE POSITION OF THE BOTTOM ROW BATTENS

The height of the first row of slates, also called 1st under-eaves course: $H_1 = L + A - 2.5 \text{ cm}$

The height of the second row of slates, also called 2nd under-eaves course: $H_2 = L + A$

The bottom slates are fixed with 3 nails.

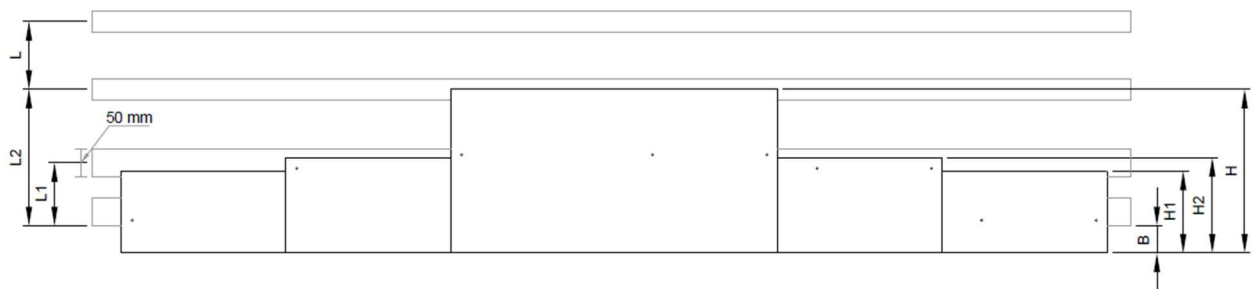
Batten distances are calculated as following:

$$L_1 = L + A - (B + 1 \text{ cm}) \quad \& \quad L_2 = H - B$$

A = head-lap

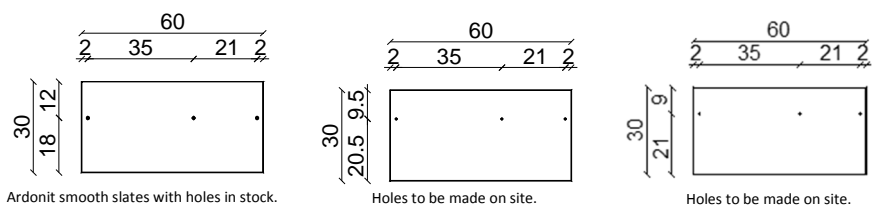
B = overhang of the bottom slates past the lowest batten (max. 5 cm)

L = batten gauge centre-to-centre, depending on slate height H and head-lap A



Height slate H [cm]	Head-lap A [cm]	Ardonit				
		L [cm]	H ₁ [cm]	H ₂ [cm]	L ₁ [cm] (B = p. ex. 5cm)	L ₂ [cm] (B = p. ex. 5cm)
30	5	12.5	15.0	17.5	11.5	25.0
	10	10.0	17.5	20.0	14.0	25.0
	11	9.5	18.0	20.5	14.5	25.0

10. NUMBER AND DIMENSIONS



Head-lap [cm]	5	10	11
Visible surface W x H [cm]	60 x 12.5	60 x 10.0	60 x 9.5
Batten gauge centre-to-centre [cm]	12.5	10.0	9.5
Number of slates [pc/m ²]	13.25	16.56	17.43
Weight [kg/m ²]	20.26	25.3	26.33
Battens [m/m ²]	8.0	10	10.5

The numbers are calculated with a **perpendicular joint of 4 mm**.