

SINTEF Building and Infrastructure confirms that

Decra® Classic

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document

1. Holder of the approval

Icopal AS
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2. Product description

Decra Classic roofing-tile panels are cold-rolled sheet-steel roofing panels, shaped with 7 modules as shown in Fig. 1. The panels have standard dimension 1325 x 415 mm.

Fig. 2 illustrates the composition of the panels. Nominal sheet-steel thickness is 0.42 mm. The roofing-tiles are coated with 250g/m² zink-magnesium on both sides. The upper side has an additional 7-10 µm polyurethane coating, a coloured 200 µm (dry) acrylic coating, stone granules and an approximately 10 µm clear acrylic coating. The underside has an additional 7-10 µm polyurethane coating. The weight of the roofing-tile panels for finished laid roof surface is approx. 6.7 kg/m².

In addition to standard panels, various kinds of accessories such as ridge flashing, gable flashing, valley gutter, etc. are available in the same material.

3. Fields of application

Decra Classic is used as roofing on ventilated sloping roofs where the panels are laid on wooden battens.

4. Properties

Load-carrying capacity

The roofing-tile panels were test-loaded with an evenly distributed load up to 21 kN/m² without any breakage being registered or the occurrence of any permanent deformations. Icopal Decra Classic can be regarded as having satisfactory strength and rigidity at all relevant snow loads experienced in Norway.

Experiments with static point loads with contact surface 10 cm x 10 cm indicate that permanent deformation occurs at loads in excess of 1 kN.



Fig. 1
 Standard Decra Classic roofing-tile panel
 Figure: Icopal AS

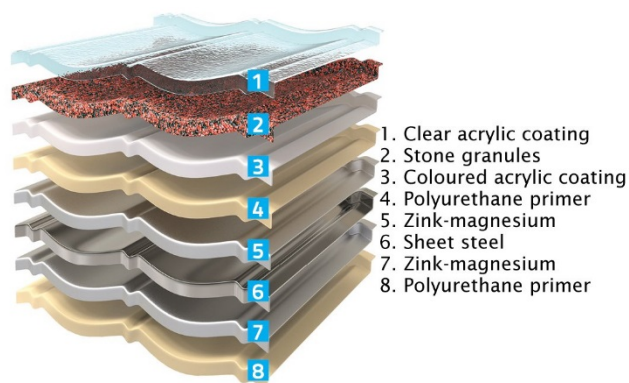


Fig. 2
 Composition of Decra roofing-tile panel
 Figure: Icopal AS

During testing, roofing-tile panels fastened to the battens have withstood wind loads corresponding to wind speeds in the order of 75 m/s (270 km/h).

External fire performance

Decra Classic are classified B_{ROOF(t2)} according to EN 12501-5 based on the product standard EN 14782.

Durability

Since the edges are acrylic-coated at the factory, Decra Classic has relatively good corrosion protection. Generally speaking, one must be aware that roofing based on sheet steel may suffer corrosion damage over time in areas where an especially corrosive atmosphere exists.

Tightness against precipitation

The roofing-tile panels are relatively impervious to driven-in rain and snow, and can in most cases be laid on under-layer roofs with loose overlap.

5. Environmental aspects*Substances hazardous to health and environment*

The product contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Effect on soil, surface water and ground water

The leaching properties of the product are evaluated to have no negative effects on soil or ground water.

Waste treatment/recycling

The product shall be sorted as metal on the building/demolition site. The product shall be delivered to an authorized waste treatment plant for material recovery.

Environmental declaration

No environmental declaration (EPD) has been worked out for the product.

6. Special conditions for use and installation*Design considerations*

Decra Classic can generally be used on roofs with a slope as low as 15°. The panels should normally be installed over an underlayer roof. Decra Classic can be used at a roof pitch down to 10° provided that the roofing underlay has satisfactory documentation for use at such roof slopes.

Installation

The roofing-tile panels should be positioned on battens spaced 369 mm apart and fastened at the front edge with Decra nails or screws (see Fig. 3). Four nails/screws should be used for each panel, and the nails should be positioned approximately 60 mm to one side of the centre of the panel profiles. The fastening method necessitates accurate positioning/spacing of the battens.

Great care must be taken to ensure that the roofing-tile panels are not damaged during installation, both with regard to walking and nailing (see separate guide from suppliers). A special repair kit is available for rectifying accidental damage.

Cutting should be executed using either sheet-metal shears or circular saw with a special blade for cutting steel. The circular-saw blade should have a maximum cutting speed of 50 m/sek. Neither angle grinder nor high-speed saw should be used as these tools generate excessive heat at the cutting edge. Exposed edges should be brushed with corrosion-protective paint.

The roofing-tile panels should generally be installed in accordance with the principles for penetrations in the roof surface, connections to associated building components and other guidelines given in SINTEF Building Research Design Guides 544.101 and 544.103.

The need for snow guards can be assumed to be the same as for roof coverings of bitumen, shingle and coarse concrete tile, see SINTEF Building Research Design Guide 525.931. Snow guards are recommended for roof pitches from 30° and above.

Maintenance

As a rule the roof should be inspected at least twice a year - spring and autumn. Each spring it should be examined whether ice or snow has caused damage. Check especially that all the fittings are in order and that bushings around chimneys, pipes and skylights are tight. Snow can be removed with a shovel. Avoid scratching the surface. Always leave 15 to 20 cm of snow left on the roof.

Traffic on the roof

Deformation of panels due to overloading can lead to damage of the corrosion protection. Roofing with Decra Classic must therefore always be supplemented by roof steps, roof bridges, etc., wherever access to the roof is needed for maintenance purposes.

Walking on the sheets must only be done with caution. Soft-soled shoes must be worn and the weight placed on the balls of the feet when walking on the roof. The foot should be positioned in the valley of the undulation directly above the roofing batten.

7. Factory production control

The product is produced by Icopal S.A. BE-4040 Herstal, Belgium

The holder of the approval is responsible for the factory production control in order to ensure that the product is produced in accordance with the preconditions applying to this approval.

The manufacturing of the product is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

Icopal S.A. has a certified quality system certified by BCCA, Belgium Construction Certification Association npo, NBN EN ISO 9001 certificate no 1325.

8. Basis for the approval

The approval is based on several years with SINTEF Technical Approval supplemented by reports from *Dansk Brand- og sikringsteknisk Institut* with regard to fire-related properties and the following reports:

- BCCA, report ES131008a, dated 2013-10-14, product properties
- SINTEF, report SF2015F0212, dated 2015-06-05, evaluation of leaching
- SINTEF, report 102000823-2, dated 2015-10-22, type testing

9. Marking

The product is CE marked in accordance with EN 14782.

The approval mark for SINTEF Technical Approval No. 2029 may also be used.



Approval mark

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

for SINTEF Building and Infrastructure

A handwritten signature in blue ink that reads "Hans Boye Skogstad".

Hans Boye Skogstad
Approval Manager