Balconies and terraces with tile flooring and thermal insulation

1. Laying surface
2. Concrete gradient screed
3. Bituminous primer
4. Vapour barrier
5. Thermal insulation panel
6. Bituminous membrane (1st layer)
7. Bituminous membrane (2nd layer)
8. Double separation layer
9. Concrete protection cap
10. Tile flooring
11. Minimum water containment distance
12. Threshold
13. Balcony contact point
14. Indoor tile flooring
15. Shock absorber
**TECHNICAL SPECIFICATIONS ITEMS**

1. Flat roofing in concrete and masonry, concrete or prestressed slabs.

2. Sand and cement gradient screed or expanded material filling that requires an approx. 2 cm thick finishing layer in sand and cement or in cement grout. This will avoid the need to torch the first membrane if polystyrene beads are used for filling and prevent the formation of bumps after the drying of the screed if expanded perlite is used as filling.

3. All surfaces on which the waterproofing layer is laid on-site must be previously given a coat of a bituminous primer (POLYPRIMER HP 45 PROFESSIONAL by POLYGLASS S.p.A.) with 20±25 viscosity in FORD Cup no. 4 at 25 °C. Wait until the primer is completely dry (15-20 hours) before applying the waterproofing layer.

4. A vapour barrier composed of an elastomeric plastomeric waterproofing membrane for professional use made of bitumen modified with polypropylene reinforced with reinforced fibre glass bonded to a 6/100 mm thick aluminium strip (POLYVAP RADONSHIELD 3 mm by POLYGLASS S.p.A. (produced by UNI EN ISO 9001:2008 and UNI EN ISO14001:2004 certified Quality System; CE conformity marking with intended use as per EN 13970 vapour barrier) will be laid over the entire surface. This membrane with -10 °C cold flexibility is made with the quality standards ensured by N.A.T.* (NO AGEING TECHNOLOGY, an innovative productive system that permits control over the polymeric ageing process of bituminous membranes). The continuity of the vapour barrier will be ensured by overlapping the membrane by at least 10 cm on the sides and 15 cm on the heads and uninterrupted bonding by torching with propane gas. The vapour barrier must be turned up and bonded to the walls to at least 5 cm above the insulation layer envisioned. A plastic or metal vent pipe (EPDM, 20/10 lead, or 8/10 stainless steel) must be connected to the vapour barrier.

5. Thermal insulation layer made using polyurethane PUR VB foam panels by POLYGLASS S.p.A facing with resin coated glass fibre on one side and bituminized glass fibre on the other. The panels can be fastened using special bituminous glues like POLYFIX, mechanical fastening with metal washers and fixings or by torching the vapour barrier. The total thickness of the layer must be calculated in accordance with the current standards in force for the climatic area in question (Law 10/91 and amendments in Decree Law 311). The panels must be staggered, making sure that the entire sides of each panel lie atop the previous one in order to avoid thermal bridges. The type of mechanical fastening for each panel chosen on the basis of the height of the roofing and the local climate and wind power extraction usually requires 4 or 5 fastening points per panel or square metre.

6. The first waterproofing layer will be composed of an elastomeric waterproofing membrane for professional use made with a latest generation distilled bitumen-based compound REOXTHENE ULTRALIGHT TECHNOLOGY in 4 mm thickness with continuous thread on-woven polyester fabric with elevated basic weight reinforced and stabilised by longitudinal glass fibre (ELASTOLUM by POLYGLASS S.p.A. - produced by UNI EN ISO 9001:2008 and UNI EN ISO14001:2004 certified Quality System; CE conformity marking with intended use as per EN 13707 Multiple layer or Single layer). This membrane with -20 °C cold flexibility is made with the quality standards ensured by patented innovative technology which surpasses previous weight/thickness parameters, completely without mineral filler (calcium carbonate CaCO₃), and with an ISO 1183 bituminous compound density of ≤0.95 kg/dm³. The membrane can be applied with perfect adherence to the layer previously applied with overlaps of 8÷10 cm on the sides and 12÷15 cm on the heads bonded by light torching with propane gas. The layer must be turned up and bonded by torching without interruption between the horizontal surface membrane and the vertical turn-up.

7. The second waterproofing layer will be composed of an elastomeric plastomeric waterproofing membrane for professional use made with a latest generation distilled bitumen-based compound REOXTHENE ULTRALIGHT TECHNOLOGY in 5 mm thickness covered on the undersides with mineral slate chips reinforced with continuous thread non-woven polyester fabric with elevated basic weight, (POLYFLEX LIGHT MINERAL by POLYGLASS S.p.A. - produced by UNI EN ISO 9001:2008 and UNI EN ISO14001:2004 certified Quality System; CE conformity marking with intended use as per EN 13707 Multiple layer or Single layer). This membrane with -20 °C cold flexibility is made with the quality standards ensured by patented innovative technology which surpasses previous weight/thickness parameters and completely without mineral filler (calcium carbonate CaCO₃) and with an ISO 1183 bituminous compound density of ≤0.95 kg/dm³. The membrane can be applied with perfect adherence to the layer previously applied with 10-12 cm overlapping at the sides 15-20 cm overlapping at the heads bonded by light torching with propane gas. The layer must be turned up and bonded by torching along the walls. All the membranes forming the second waterproofing layer must be laid in the same direction as the first with longitudinal and transversal overlapping equal to or greater than the width of the bonding beam. The layer must be turned up and bonded by torching along the walls without interruption between the horizontal surface membrane and the vertical turn-up.

8. Separation layer made by laying POLYCART C by POLYGLASS S.p.A. bituminous rolled felt paper or 30+30/100 mm thick double LDPE film dry staggered over the waterproofing layers with approx. 20 cm overlaps and a vertical turn-up higher than the height of the final flooring. A compactable 10/15 mm thick polystyrene foam separation element must be positioned along all the vertical turn-ups prior to the laying of the new flooring.


10. For tile flooring with concrete undersurfaces.
### TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>TEST METHOD</th>
<th>TECHNICAL CHARACTERISTICS</th>
<th>UNIT OF MEASURE</th>
<th>NOMINAL VALUES</th>
<th>NOMINAL VALUES</th>
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<tbody>
<tr>
<td>EN 1848-1</td>
<td>LENGTH</td>
<td>m</td>
<td>10 (-1%)</td>
<td>10 (-1%)</td>
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<tr>
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<tr>
<td>EN 1947</td>
<td>WETERTIGHTNESS AGAINST CHEMICAL</td>
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<td>≤50% Initial Value</td>
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<tr>
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<td>NPD</td>
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<tr>
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<td>REACTION TO FIRE</td>
<td>Euroclass</td>
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<td>EN 1108</td>
<td>FORM STABILITY UNDER CYCLIC TEMPERATURE CHANGE</td>
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<td>EN 1110</td>
<td>FLOW RESISTANCE AT ELEVATED TEMPERATURE</td>
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<td>VISIBLE DEFECTS</td>
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**POLYVAP Radonshield:** In compliance with EN 13970 product standards (vapour barrier).

**POLYFLEX LIGHT:** In compliance with EN 13707 product standards (layers for roofing) and EN 13969 (foundations).

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2. Gradient screed
3. Bituminous primer
4. Vapour barrier
5. Thermal insulation panel
6. Bituminous membrane (1st layer)
7. Bituminous membrane (2nd layer)
8. Double separation layer
9. Protective concrete screed
10. Tile flooring
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Detail A

1. Laying surface
2. Concrete gradient screed
3. Bituminous primer
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12. Threshold
13. Balcony contact point
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15. Shock absorber

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