OMEGA JOINT is an expansion joint in extruded thermoplastic resins adapted to be compatible with the bituminous mass of the waterproofing membranes. OMEGA JOINT is specific for roofs and viaducts.

Polyglass is a member of the Green Building Council
TECHNICAL DESCRIPTION

OMEGA JOINT is an expansion joint in extruded thermoplastic resins compatible with the bituminous mass of the waterproofing membranes. OMEGA JOINT is specific for roofs, tunnels, viaducts and so on. The joint has two lateral wings of 150 mm wide, 1 mm high with a series of perimeter holes to ensure a perfect anchorage to the bitumen and/or to the bituminous membranes. The joint supplied in rolls 25 m long is extruded by using a special stabilized thermoplastic material, rubber type, compatible with bitumen and with bituminous membranes. The product has a high mechanical resistance to the expansion and to the mechanical contractions of concrete structures, as well as to low temperature; it resists to UV rays, to ozone and to the other chemical and atmospheric agents.

WHERE TO APPLY IT

The Omega-shaped joint finds application in waterproof build-up systems of either the warm roof (featuring insulation that is compatible with the membranes' torch-on application) or cold roof variety (with no insulation) produced with polymer distilled bitumen membranes. The Omega-shaped joint must be placed on the flat surfaces of concrete structures and cannot be applied adjacent to vertical walls or where surfaces feature significant differences in height. Another factor to take into account when applying the joint is the time of year: expansion of the structure's component parts is at its greatest during the summer months, when the opening joint will therefore be minimum; while the elements' contraction is at its greatest during the winter months, when the structural joint will be at its maximum opening.

HOW TO APPLY IT

When installing the joint, we recommend you proceed as follows:

For application on insulated roofs:

1) Once the layering under the insulation (Bituminous Primer and Vapour Barrier) has been completed, install the insulating panel, which must be bonded to the layer underneath with hot bitumen, a polyurethane adhesive or by securing the individual sheets with a mechanical fixing system. The slot between the sheets of the insulating panel to accommodate the joint must measure approx. 25-30 mm during the summer months when expansion of the structure's component parts is at its maximum; and approx. 35-40 mm during the winter months when the concrete structure's contraction is at its maximum.

2) Next, apply the first waterproof layer using polymer distilled bitumen membranes, in either the elastomeric-plastomeric or elastomeric version; application of the membrane must not affect the size of the previously prepared slot due to accommodate the Omega-shaped joint.

3) Lay the Omega-shaped joint down near the application site. Check that the size (length) is compatible with the joint dimensions, perform whatever cuts or welding are required. Insert the joint into the slot prepared in the insulating panel with the rounded part inside the slot and the joint's two flanges sitting directly on the bitumen membrane making up the first waterproof layer. During the winter months, you can preheat the omega-shaped joint using the same propane torch used to apply the membranes, but be careful not to focus heat on individual points of the joint.

4) The Omega-shaped joint's two flanges must be bonded to the first bitumen membrane. The recommended procedure is to use blown bitumen previously heated in appropriate boiler pots. Once the bitumen reaches the right temperature, lift one of the joint's flanges with the aid of suitable tools to avoid burns (remember that the melted bitumen at this stage reaches temperatures of around 160-180 °C) and brush it onto both surfaces with a bristle block brush, making sure you coat both surfaces fully. Then lower the joint's flange, using a metal roller to press it down to promote adhesion between the two surfaces. Then repeat the procedure on the joint's other flange. Once you have glued down both of the joint's flanges, coat the top of the joint with the hot bitumen, that way the whole Omega-shaped joint area will be correctly bonded to the substrate. If the structure is subject to significant movement, you will also need to fasten the joint's flanges mechanically using bolts and metal washers. Exercise the utmost care when bonding the joint with hot melted bitumen: take all precautions dictated by occupational health, safety and hygiene regulations and use the Personal Protective Equipment.

5) Once the surface of the joint you have just worked on has cooled to ambient temperature, you can apply the second bitumen membrane, making sure you weld the membrane correctly on the joint's flange. To seal off the top of the joint, place an extruded polyethylene foam profile on top measuring approx. 25 mm in diameter, covered with a 330mm-wide elastomeric membrane strip suitably torched onto the two adjacent membranes using a propane torch.

The various profiles can be joint on the site by welding the extremities using a leister welder or a hot blade, “thermal sword”. If using a hot blade proceed as follows: the joint edges to be heated must be perfectly squared off; insert the hot blade between the pieces to be jointed and melt the material for approximately 2 mm each side, then press the edges together; hold the 2 welded pieces in position for approximately 2 minutes but before handling, wait the joint cooling.
For application on uninsulated roofs:

1) Once you have applied the Bituminous Primer to promote adhesion of the bitumen membranes, apply the first waterproof layer using polymer distilled bitumen membranes, in either the elastomeric-plastomeric or elastomeric version. The slot to accommodate the joint must measure approx. 25-30 mm during the summer months when expansion of the structure’s component parts is at its maximum; and approx. 35-40 mm during the winter months when the concrete structure’s contraction is at its maximum; application of the membrane must not affect the size of the previously prepared slot due to accommodate the Omega-shaped joint.

2) Lay the Omega-shaped joint down near the application site. Check that the size (length) is compatible with the joint dimensions, perform whatever cuts or welding are required. Insert the joint into the slot prepared with the rounded part inside the slot and the joint’s two flanges sitting directly on the bitumen membrane making up the first waterproof layer. During the winter months, you can preheat the omega-shaped joint using the same propane torch used to apply the membranes, but be careful not to focus heat on individual points of the joint.

3) The Omega-shaped joint’s two flanges must be bonded to the first bitumen membrane. The recommended procedure is to use blown bitumen previously heated in appropriate boiler pots. Once the bitumen reaches the right temperature, lift one of the joint’s flanges with the aid of suitable tools to avoid burns (remember that the melted bitumen at this stage reaches temperatures of around 160-180 °C) and brush it onto both surfaces with a bristle block brush, making sure you coat both surfaces fully. Then lower the joint’s flange, using a metal roller to press it down to promote adhesion between the two surfaces. Then repeat the procedure on the joint’s other flange. Once you have glued down both of the joint’s flanges, coat the top of the joint with the hot bitumen, that way the whole Omega-shaped joint area will be correctly bonded to the substrate. If the structure is subject to significant movement, you will also need to fasten the joint’s flanges mechanically using bolts and metal washers. Exercise the utmost care when bonding the joint with hot melted bitumen: take all precautions dictated by occupational health, safety and hygiene regulations and use the Personal Protective Equipment.

4) Once the surface of the joint you have just worked on has cooled to ambient temperature, you can apply the second bitumen membrane, making sure you weld the membrane correctly on the joint’s flange. To seal off the top of the joint, place an extruded polyethylene foam profile on top measuring approx. 25 mm in diameter, covered with a 330mm-wide elastomeric membrane strip suitably torched onto the two adjacent membranes using a propane torch.
### PRODUCT CHARACTERISTICS

| ASTM D 792 | DENSITY | 1.13 g/cm
| ASTM D 2240 | HARDNESS 15" | 70 Shore A
| ASTM D 624 | TEAR STRENGTH WITHOUT NOTCH | 2.5 KN/m
| ASTM D 638 | TENSILE MODULS 100% ELONGATION | 2.2 MPa
| ASTM D 638 | TENSILE MODULS 300% ELONGATION | 3.2 MPa
| ASTM D 638 | TENSILE STRENGTH | 5.0 MPa
| ASTM D 638 | ELONGATION AT BREAK | 580 %
| ASTM D 1238 | MFI (190°C, 49.05 N) | 5.10 g/10 min

### PACKAGING, STORAGE

| PACKAGING | Rolls of 25 ml

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**Rev. 1-15**

**PRODUCT FOR PROFESSIONAL USE**

The figures, information and suggestions result from the experience of Polyglass SpA. Anyone who uses OMEGA JOINT must ensure that the product is suitable for the specific use and application. In any case the installer is the only person responsible for the correct application and therefore of all consequences arising from said application. Please always refer to our last version of the technical data sheet on our site: www.polyglass.com.

For any further information, please contact our technical office.

Polyglass SpA reserves the right, without notice, to modify the technical card according to the necessity to improve the product.