GUARDIANWELD™

Innovative induction welding device for fastening synthetic roof membranes

GUARDIAN

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Product description and application:

The GuardianWeld™ is an innovative and robust device for fastening synthetic PVC, TPO or EPDM roof membranes. Induction technologyis used to bond the membrane to specially developed pressuredistribution plates. The pressure distribution plates are heated by the induction system and the adhesive on the plates is activated and adheres to the underside of the membrane.

The GuardianWeld™ and its fastening method make it possible to optimise the fixing pattern of both thermal insulation and the membrane. All previous knowledge and experience of induction welding is combined in this revolutionary device that makes fastening synthetic roof membranes a more ergonomic, rapid and cost-effective process.

System components

GUARDIANWELD™
Field fastening stress plates

- Specially coated stress plates for field fastening use
- Metallic coating for PVC membranes,
- Yellow coating for TPO membranes
- Black coating for EPDM membranes
- 80 mm in diameter
- Hole diameters: 6.8 and 16 mm

GUARDIAN® FASTENERS

- PS 4.8
- CS 6.1
- BS 4.8 and 6.1
- LBS 6.0

SLEEVES

Guardian® GWT

- Sleeves of heat-resistant polyamide
- Head diameter 23 mm

SETTING TOOL

- Hand tool with depth control, enabling easy,
- ergonomic installation to the right insertion depth
- Suitable for fixing to steel and timber structures
- Ergonomic, working in upright position

GUARDIANWELD™
Induction tool

- High-tech robust induction tool
- Simple, user-friendly, ergonomic working
- Multiple safety functions: search-andcontrol, temperature compensation, current balancing and
- acounter in the display

MAGNET

- Setting contact pressure and cooling function
- Rods can be removed for tight operating spaces and
- vertical application
- Recommendation for maximum efficiency: ten magnets
- per induction tool
- Available in a set of 10 magnets or as single magnet

HANDINDUCTOR

- The hand set can be fitted to the GuardianWeld™ unit
- Ideal for working in tight corners and on vertical applications
- Four metre cable reach
- Same features as the GuardianWeld™

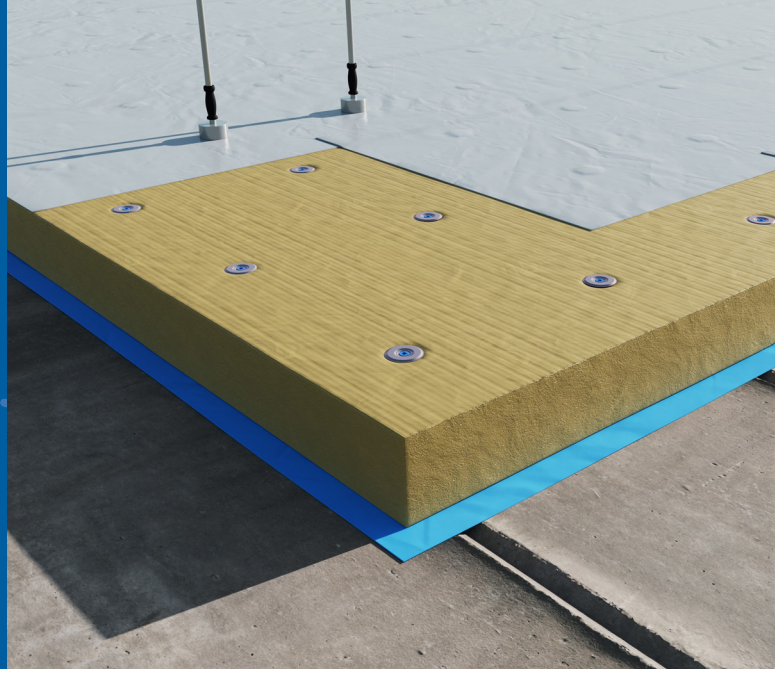
PAD FOR WORKING WITH EPS

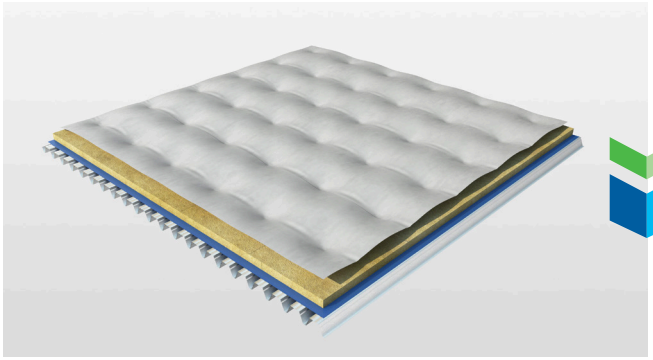
- A special pad essential for working with EPS insulation
- Positioned between the field fastening plate and the insulation
- 90 mm in diameter
- The perforated centre means the same pads can be used in all-metal and sleeve applications

BENEFITS

GuardianWeld field fastening: benefits

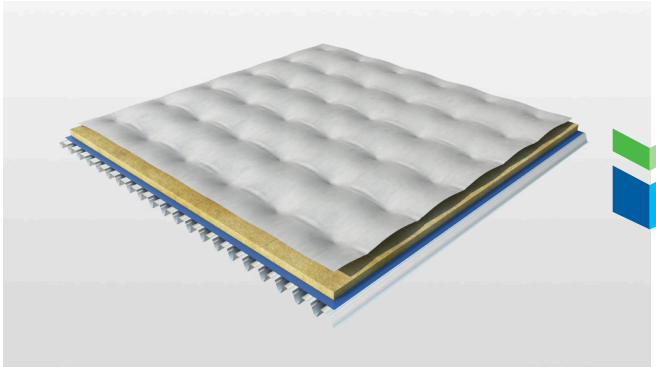
Whilst the field fastening method for the attachment of single-ply membrane is already used in the roofing industry, methods of attachment differ. The GuardianWeld™ field fastening system uses induction technology and offers a non-penetrating solution. Secure attachment is achieved through the welding of the membrane to a dedicated Guardian® stress plate.





Seam Fastening

1. Fastening at membrane joints
2. Various membrane widths necessary
3. Additional fastening is required for the insulation
4. Penetration of the membrane
5. Extended membrane overlaps are required
6. Covering of the roof is dependent on the fastening process
7. More fastening points



Field Fastening

1. Fastening independent of membrane joints
2. Only one membrane width required for the whole project
3. No insulation fasteners are required
4. No penetration of the membrane
5. Reduced membrane overlaps
6. Covering of the roof is independent of the fastening
7. process – and is therefore faster
8. Fewer fastening points

Cost savings

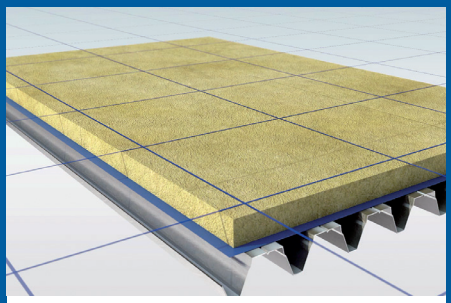
- Reduced membrane overlap required at the seam joints
  (saving on material 3-6%)
- Fewer fasteners than with traditional mechanical fastening:
  - fewer thermal bridges, saving on energy
  - saving on material
  - saving on labour costs
- No adhesive needed for fixing membranes

Other benefits

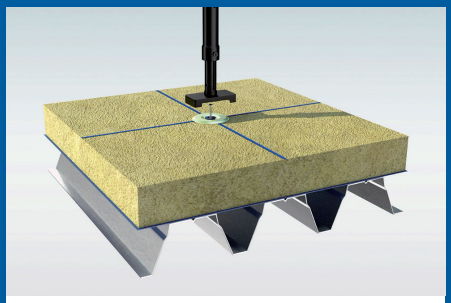
- High-quality solution
- Roofs are watertight faster
- Application is less weather-dependent
- Ergonomic and comfortable:
  - Rechtopstaand werken met GuardianWeldTM inductielasapparaat
  - Licht in gewicht
  - Gemakkelijk hanteerbaar

HOW IT WORKS

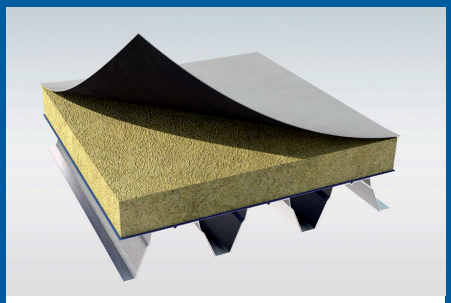
Special Guardian® fasteners and pressure distribution plates are used to install the insulation before the roof membrane is applied. The stress plates, which can be delivered pre-mounted with fasteners, have a special coating on their upper side which adheres to the underside of the roof membrane after induction welding. The colours of the stress plates correspond to different types of membrane: metallic = PVC, green = TPO, and black = EPDM. A suitable coating has been developed for each type of roof membrane. The induction device locates the fastener itself and starts as soon as it is properly positioned. The stress plate is heated for several seconds, after which the coating is activated and the membrane adheres to the fastener. To prevent the membrane from blowing around, and to ensure sufficient adhesion, a special magnet is placed over the fixing point, which both presses down the roof membrane and draws the heat out of the stress plate. After around 60 seconds, the magnet can be removed and the fastening is complete.



Stap 1
Determine the location of the fixing points



Stap 2
Install the fixing points



Stap 3
Roll out the membrane and weld the seams

Stap 4
Mark fixing points

Stap 5
Get the induction device ready

Stap 6
Weld the Guardian™ plates to the membrane

GUARDIAN

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More information

For detailed instructions, see the GuardianWeld™ instruction manual at www.guardian.nl. For technical advice or more information about GuardianWeld™ please contact the Customer Service Department, telephone number 0031 (0) 492 597400.