# **JACKODUR®** Thermal bridge insulation.





Installation instructions

#### **General information**

JACKODUR<sup>®</sup> thermal insulation made from extruded polystyrene foam (XPS) is produced and monitored in accordance with DIN EN 13164 and approval no. Z-23.15-1477. JACKODUR<sup>®</sup> Gefiniert with a waffle pattern is ideal for use as thermal bridge insulation. Examples of thermal bridges which are insulated with JACKODUR<sup>®</sup> Gefiniert: end faces of ceilings, window lintels, stiffening supports, roller shutter housing, projecting concrete elements and the plinth area. The textured surface provides excellent adhesion ( $\geq 0.2 \text{ N/mm}^2$ ) and is resistant to moisture and wet conditions.

### Installation of JACKODUR® Gefiniert thermal insulation boards

#### a) Insert JACKODUR<sup>®</sup> Gefiniert into the formwork

Before the concrete is poured, the JACKODUR® Gefiniert thermal insulation boards can be laid tightly against one another in a bond against the formwork skin. In order to ensure the JACKODUR® thermal insulation boards stay in place while the concrete is poured, they are fixed to the wooden formwork with large head nails. The length of the large head nails should be selected so that they are fixed at a maximum of 10 mm into the substrate.

Figure 1: Fixing JACKODUR® Gefiniert into the wooden formwork



When using JACKODUR<sup>®</sup> Gefiniert extruded foam boards on the underside of ceilings for example, an additional fixture using fixing anchors is recommended. Standard plastic nails with a minimum head diameter of  $\geq$  30 mm and a fixing depth of  $\geq$  50 mm in the concrete can be used for this. As a guide, 6 fixing anchors should be used per board (1250 x 600 mm).



- ① Wooden boarding
- ② JACKODUR<sup>®</sup> Gefiniert
- ③ Large head nails



Figure 2: Fixing with fixing anchors



④ Fixing anchors

#### b) Retrofitting JACKODUR® Gefiniert in plinth area

When installing JACKODUR® Gefiniert thermal insulation boards in the plinth area or at the junctions with areas in contact with soil, the specific mechanic and moisture-related requirements according to the "Composite thermal insulation systems in plinth areas and areas in contact with the soil" leaflet must be taken into consideration.

Photo 1: Plinth insulation with JACKODUR® Gefiniert



Photo 2: Plinth insulation with JACKODUR<sup>®</sup> Gefiniert using dot bead method



JACKODUR<sup>®</sup> Gefiniert thermal insulation boards are bonded to the previously inspected substrate with a suitable adhesive mortar using the dot bead method. At least 40% of the board should be covered in the process. If necessary, they can be fixed mechanically in addition using suitable insulation anchors (4 pc/m<sup>2</sup>) above the top ground surface. The extruded foam boards with smooth edges are laid tightly against one another in a bond in large areas.

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#### Figure 3: Plinth insulation detail



- ① Composite thermal insulation system
- Exterior render
- ③ JACKODUR<sup>®</sup> facade anchors
- ④ Plinth insulation JACKODUR® Gefiniert
- (5) Moisture proofing + bubble wrap
- 6 Perimeter insulation JACKODUR® Standard
- ⑦ Waterproofing layer

The plinth render in the area in contact with soil must be provided with moisture proofing, e.g. bituminous coating up to the top ground surface. A protective layer should be arranged in front of this area by the contractor, e.g. bubble wrap, drainage panels or similar.

#### c) Installation of insulation shuttering elements

The basic requirement for energy saving in buildings is thermal bridge free construction. Using JACKODUR® JDS floor edge formwork considerably increases the thermal insulation of a building. JACKODUR® JDS floor edge formwork is installed as stay-in-place formwork for concrete ceilings, providing a good primer for plastering mortar thanks to its waffle texture on the surface (see installation instructions for JDS floor edge formwork). JACKODUR® foundation formwork is used for strip and individual foundations. It remains inside the structural element as stay-in-place formwork and then takes on the function of thermal bridge insulation for the foundation (see installation instructions JACKODUR® Foundation formwork).

# Rendering JACKODUR<sup>®</sup> Gefiniert thermal insulation boards outdoors

JACKODUR<sup>®</sup> Gefiniert thermal insulation boards can be rendered in three different ways in accordance with the leaflet on "Installation and rendering of extruded polystyrene foam boards with rough or waffle surface used as thermal bridge insulation". A reinforcement fabric must be embedded in the render in every case. The exterior render system strictly comprises multiple layers (e.g. base coat, reinforcement coat, top coat). The only suitable plastering renders that should be used are factory-made mineral based dry mortars according to DIN 18 550 and DIN EN 998-1 or SIA 242/1.

#### **Please note**

The information provided in this leaflet is based on our knowledge and experience to date. It does not constitute a guarantee in any legal sense. When using this product, please always bear in mind the circumstances of the particular intended application, especially with regard to physical, technical and legal construction issues.

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