

INNOFIXX raw plug/dowel for heavy duty loads and facades is the first of its kind. It is easy to fixate, and simultaneously transfers high vertical and horizontal loads over large distances into the carrying structure. It can be used for multiple fixations in cracked or non-cracked concrete and covers a wide range of applications. Those combined features differentiate INNOFIXX from existing raw plugs/dowels. The Deutsche Institut für Bautechnik certified (No. Z-21.1-194) the product after INNOFIXX was patented in 2005 for 27 European countries and certified from 2011 to be used in Germany. The certification follows the process of extensive testing for the special properties of the heavy duty raw plug when used for distance bridging construction on roofs, facades and the carrying of lateral, transverse and tensile loads. With this regulatory certification the patented product is now nationally approved in Germany for use.



## # REFURBISHING OLDER BUILDINGS

The refurbishment of facades with old heat insulation composite systems or the deployment of energy modernization and renovation, is simplified with the usage of INNOFIXX heavy duty raw plugs/dowels. With existing sub-structures the heat insulation composite system has to be demolished whilst innovative INNOFIXX heavy duty raw plugs/dowels would be anchored by passing through the existing heat insulation composite system. This feature makes any refurbishment very easy. The raw plug/dowels can be used to fixate conventional sub structures and, because of the anchoring used, the structure will have lower heat bridges compared to conventional sub-structures usage. INNOFIXX heavy duty raw plugs can sustain lateral, transverse and tensile loads and transfers those loads over larger distances in a secure way.

In the case of modernization this means new facade elements can be mounted on existing sub-structures without problems, when using the right size of INNOFIXX heavy duty raw plugs.

### Cost advantages

The effect on costs includes a reduction in required materials and the number of required carrying constructions, as well as an easy and time saving deployment. The carrying load of the INNOFIXX heavy duty raw plug depends solely on the diameter of the pipe sleeve. Any distance can be covered.

### Certified to be used worldwide

The patented INNOFIXX heavy duty raw plug/dowel is certified to be used worldwide. In 2007 the inventor, Berlin based construction engineer and expert Dipl.-Ing. Gerhard Heying and his certified practice partner, master of metal works, Axel Herzprung were awarded the gold medal on the IENA 2007, an international trade fair for ideas, inventions and new developments.

INNOFIXX raw plug/dowel for heavy duty loads and facades is the first of its kind. It is easy to fixate, and simultaneously transfers high vertical and horizontal loads over large distances into the carrying structure. It can be used for multiple fixations in cracked or non-cracked concrete and covers a wide range of applications. Those combined features differentiate INNOFIXX from existing raw plugs/dowels.

The Deutsche Institut für Bautechnik certified (No. Z-21.1-194) the product after INNOFIXX was patented in 2005 for 27 European countries and certified from 2011 to be used in Germany. The certification follows the process of extensive testing for the special properties of the heavy duty raw plug when used for distance bridging construction on roofs, facades and the carrying of lateral, transverse and tensile loads. With this regulatory certification the patented product is now nationally approved in Germany for use.



## # NEW BUILDINGS

INNOFIXX raw plug/dowel is suitable for every type of ventilated facade. In the case of new buildings; hanging, ventilated facades with various cover materials like natural stone, ceramic, aluminum plates or glass can be mounted in a secure and fast way. New facade parts can be easily added to existing constructions.

The creation of modern facades requires a fast and simple, hence cost effective mounting that at the same time features a highly energetic insulation. Compared to conventional raw plugs/dowels, the new raw plug can sustain higher bending moments in order to fixate carrying profiles. Heat bridges can be avoided due to the low penetration point of the facade.

### Cost advantages

The effect on costs includes a reduction in required materials and the number of required carrying constructions, as well as an easy and time saving deployment. The carrying load of the INNOFIXX heavy duty raw plug depends solely on the diameter of the pipe sleeve. Any distance can be covered.

### Certified to be used worldwide

The patented INNOFIXX heavy duty raw plug/dowel is certified to be used worldwide. In 2007 the inventor, Berlin based construction engineer and expert Dipl.-Ing. Gerhard Heying and his certified practice partner, master of metal works, Axel Herzsprung were awarded the gold medal on the IENA 2007, an international trade fair for ideas, inventions and new developments.

INNOFIXX raw plug/dowel for heavy duty loads and facades is the first of its kind. It is easy to fixate, and simultaneously transfers high vertical and horizontal loads over large distances into the carrying structure. It can be used for multiple fixations in cracked or non-cracked concrete and covers a wide range of applications. Those combined features differentiate INNOFIXX from existing raw plugs/dowels. The Deutsche Institut für Bautechnik certified (No. Z-21.1-194) the product after INNOFIXX was patented in 2005 for 27 European countries and certified from 2011 to be used in Germany. The certification follows the process of extensive testing for the special properties of the heavy duty raw plug when used for distance bridging construction on roofs, facades and the carrying of lateral, transverse and tensile loads. With this regulatory certification the patented product is now nationally approved in Germany for use.



## # SPECIAL CONSTRUCTION ELEMENTS

The INNOFIXX heavy duty raw plug/dowel reduces the work required to add new balconies, emergency stairs or outside elevators to existing buildings. Fewer fixations are needed as compared to conventional raw plugs/dowels. Fewer carrying structures along building walls are required due to the capability of the INNOFIXX heavy duty raw plug to carry high loads. Chimneys and cantilever roofs can be added without problems. The usage of the heavy duty raw plug reduces heat bridges. The easy and cost saving process enables more appealing and unconventional constructions.

The maintenance of roofs can be simplified since bridges the insulation layer. It is possible to use carrying constructions combined with that would enable the secure fixation of any kind of solar panels.

### Cost advantages

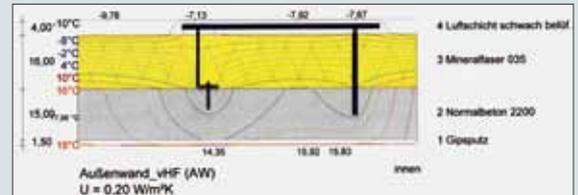
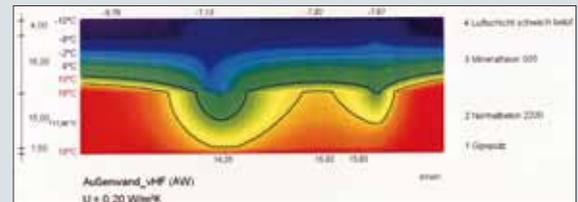
The effect on costs includes a reduction in required materials and the number of required carrying constructions, as well as an easy and time saving deployment. The carrying load of the INNOFIXX heavy duty raw plug depends solely on the diameter of the pipe sleeve. Any distance can be covered.

### Certified to be used worldwide

The patented INNOFIXX heavy duty raw plug/dowel is certified to be used worldwide. In 2007 the inventor, Berlin based construction engineer and expert Dipl.-Ing. Gerhard Heying and his certified practice partner, master of metal works, Axel Herzsprung were awarded the gold medal on the IENA 2007, an international trade fair for ideas, inventions and new developments.

INNOFIXX raw plug/dowel for heavy duty loads and facades is the first of its kind. It is easy to fixate, and simultaneously transfers high vertical and horizontal loads over large distances into the carrying structure. It can be used for multiple fixations in cracked or non-cracked concrete and covers a wide range of applications. Those combined features differentiate INNOFIXX from existing raw plugs/dowels.

The Deutsche Institut für Bautechnik certified (No. Z-21.1-194) the product after INNOFIXX was patented in 2005 for 27 European countries and certified from 2011 to be used in Germany. The certification follows the process of extensive testing for the special properties of the heavy duty raw plug when used for distance bridging construction on roofs, facades and the carrying of lateral, transverse and tensile loads. With this regulatory certification the patented product is now nationally approved in Germany for use.



## # ENERGY EFFICIENCY

From an energy perspective, the INNOFIXX raw plug is in compliance with the energy saving ordinance (EnEV). Tests with respect to the optimum isotherm line showed that the INNOFIXX raw plug has superior qualities in respect to much lower head bridges compared to conventional fixation systems. Those qualities are based on the high quality stainless steel used to produce the INNOFIXX raw plug as compared to conventional aluminum structures. The penetration point within the sub-structure of a single raw plug is much lower compared to the anchoring space that is required by conventional aluminum based facade constructions.

It has been proven through calculations that the inner wall temperature with conventional raw plugs is 1.4 degrees Celsius higher compared when using the INNOFIXX raw plug.

### Cost advantages

The effect on costs includes a reduction in required materials and the number of required carrying constructions, as well as an easy and time saving deployment. The carrying load of the INNOFIXX heavy duty raw plug depends solely on the diameter of the pipe sleeve. Any distance can be covered.

### Certified to be used worldwide

The patented INNOFIXX heavy duty raw plug/dowel is certified to be used worldwide. In 2007 the inventor, Berlin based construction engineer and expert Dipl.-Ing. Gerhard Heying and his certified practice partner, master of metal works, Axel Herzsprung were awarded the gold medal on the IENA 2007, an international trade fair for ideas, inventions and new developments.