

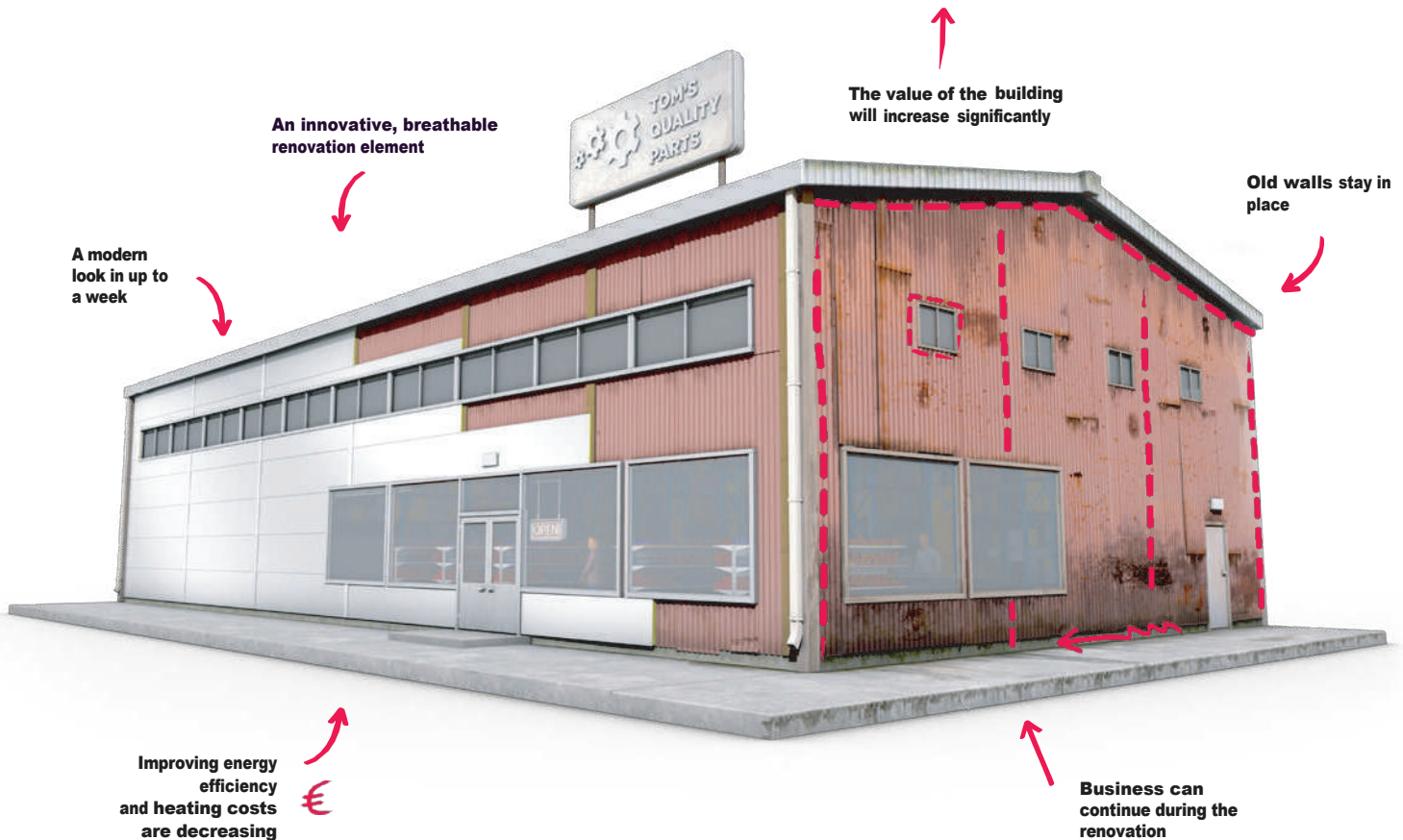
Reface™

Renovation Sandwich Panels

PRODUCT BROCHURE



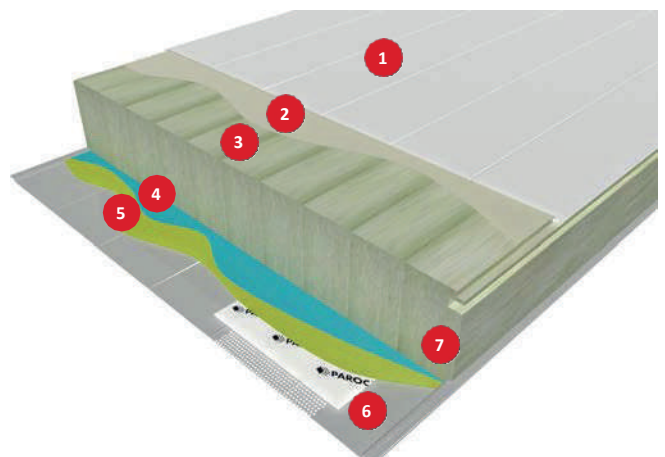
GIVE YOUR PROPERTY A SMART FACELIFT!



Reface™ is yet another ingenious innovation from a pioneer in prefabricated construction. It is a steel-faced stone wool element that is installed on top of an existing wall structure. The look of an old hall is quickly and inexpensively cleaned up. At the same time, insulation is improved, heating costs are reduced and the value of the property increases significantly.

PRODUCT DESCRIPTION

1. Outer facing: zinc-coated steel sheet with outer coating according to the requirements of the operating environment.
2. A special adhesive that meets the requirements for AST® quality in terms of strength and long-term durability.
3. (A1 Class) PAROC structural stone wool core with ventilation groove.
4. A water vapour permeable wind break with diffusion force in the area to improve the tightness of the structure.
5. A special adhesive that meets the requirements for AST® quality in terms of strength and long-term durability.
6. Inner facing: galvanized steel as a diffusion-open structure.
7. Fire-resistant tongue-and-groove structure and seals in both tongues and grooves.



REFACE™ SANDWICH PANELS

Reface™ building elements are lightweight sandwich panels for renovation, with diffusion-formed stone wool core. The surfaces of the elements are steel sheet and the core is PAROC structural stone wool, including ventilation slots for moisture evacuation. The thermal and moisture performance of the Reface™ elements is achieved by the diffusion effect of the inner skin and a water vapour permeable and water tightness membrane. The strength and long-term durability of the elements are based on seamless interaction between surface plates, core and adhesive bonds.

THE SUITABILITY OF REFACE™ ON TOP OF AN OLD WALL STRUCTURE

When planning to repair a structure, the first step is to determine the condition of the old structure and any damage to it. The causes of the damage must be identified and it must be ensured that they will be repaired during the renovation. We recommend using design consultants to determine the condition of the old structure to ensure the best possible quality and functionality.

Installing Reface™ on the exterior of an old structure requires, among other things, verification of the factors listed below and, if necessary, repair to proper condition:

- Any damage to the old structure has been identified and the causes have been investigated and can be removed during the repair.
- The old structure is sufficiently airtight or can be repaired to be airtight.
- As a rule, the indoor air in the building is also underpressured in the upper parts of the building (e.g. roof junctions).
- Indoor humidity levels are at or below dry living conditions.
- Removal of possible microbial growth on the old wall structure in critical areas for indoor air will be carried out.
- Between the old structure and the Reface™ installed on top - a study of the physical performance of the building element by a building professional.

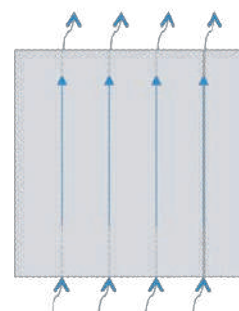
THE EFFECT OF THE FIXING METHOD ON DRAINAGE PERFORMANCE

Reface™ structural elements can be installed either horizontal or vertical. The installation method will depend on the condition of the old structure, the spans, appearance and functionality. When the elements are installed vertically, the ventilation of the grooves is approximately 7 times more effective than in horizontal installation (with a 50 mm thick element).

The ventilation capacity of horizontally installed elements is lower than that of vertically installed elements and therefore, in horizontal installation, the initial humidity of all structures should be below 80% RH before installing the elements. Paroc Panel System recommends determining the moisture content of the structure before choosing the installation method.

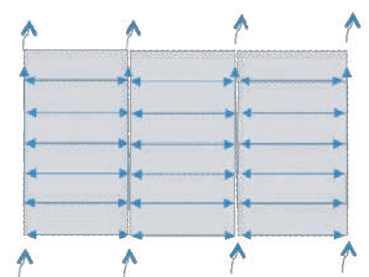
In very damp structures, initial drying is carried out by leaving a temporary ventilation space between the old wall and the new wall. The temporary ventilation space is closed when the old structure is sufficiently dry. Paroc Panel System recommends in these cases, the introduction of real-time humidity and temperature monitoring. Paroc Panel System will provide guidance and advice where necessary.

Figure 2. Vertical installation



Air flow channels in vertical installation.

Figure 3. Horizontal installation



Air flow channels in horizontal installation.

REFACE™ SANDWICH PANELS

THERMAL RESISTANCE

The thermal insulation of Reface™ building elements is affected by the ventilation slots in the elements, the way they are installed (horizontal or vertical) and whether they are installed without or with a framework.

The effect of ventilation ducts and channels on the thermal resistance (R) of 80 mm and 300 mm panels is shown in Table 1. For the exact effect of ventilation on thermal insulation, please contact Paroc Panel System.

Table 1. Thermal resistance reduction values R (m² K/W)

Thickness	Vertical installation	Horizontal installation
80 mm	0,045	0,016
300 mm	0,057	0,017

The U-value of the new structure is calculated taking into account the old structure and the new structure. Reface™ building elements have three different types of insulation: AST® L, AST® S and AST® E and nine different thicknesses.

Table 2: Thermal resistance values of the structure R (m² K/W)

Panel Type		50 mm	80 mm	100 mm	120 mm	150 mm	175 mm	200 mm	240 mm	300 mm
AST® L	0,038		2,09	2,61	3,14	3,93	4,59	5,24	6,30	7,87
AST® S	0,040		1,98	2,48	2,98	3,73	4,36	4,98	5,98	7,48
AST® E	0,045	1,09	1,76	2,20	2,65	3,31	3,87	4,42	5,31	6,65

REFACE™ FIXING METHODS

Reface™ can be fixed to an old wall in three different ways. The choice of fixing method depends on factors such as the evenness and strength of the old structure, the spans and the thickness of the element used.

Table 3. Installation options for the Reface™ building element

Fixing directly to the old structure	Fixing with support framework (25 mm)	Fixing with adjusting framework (50 - 80 mm)
		
Surface: even Construction thickness: 50 - 300 mm (panel thickness)	Surface: somewhat uneven Thickness: 50 - 300 mm (panel thickness) + 25 mm (thickness of framework)	Surface: highly uneven Construction thickness: 50 - 300 mm (panel thickness) + 52 - 82 mm adjustable framework thickness

Design guidelines for Reface™ sandwich panels

Detailed solutions are available as pdf and dwg files at www.parocpanels.com

Technical specifications of Paroc Panel System sandwich panels

For more information on fixing methods, fasteners, coatings, colours and other technical issues, see the Paroc Panel System General Design Guide.



Before



After



RREFACE™ SANDWICH PANELS

Before



After



Before



After





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