

rascor[®]

**Hybrid mortar system
RASCOhybrid HMS317**



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The RASCOhybrid HMS systems impress by their exceptional speed and cost-effectiveness.

DESCRIPTION

RASCOhybrid HMS317 is a solvent-free polyurethane injection resin system, with finely adjustable gel time, for use with a cement suspension. The hybrid system optimizes and enhances the performance of standard cement suspensions, thereby offering numerous additional benefits. Thanks to the efficiently matched polyurethane-based and cementitious materials, the hybrid mortar system undergoes a precisely controlled and tailored curing reaction. This serves to minimize material loss through washing-out during injection, thus offering twofold benefits: on the one hand, the injection operations proceed up to five times faster than with standard filling mortars. On the other hand, material consumption is more predictable given the low material loss even with high hydrostatic pressures.

BENEFITS

- adjustable gel time and viscosity
- adjustable early strength
- minimises washing-out of cement
- high ground permeation
- high cost-effectiveness

Given their early strength, finely adjustable gel times and adaptable viscosity, the RASCOhybrid HMS317 systems offer the ideal solution for the following applications:

- advance injections to stabilize and/or waterproof fault zones in fissured areas
- filling of small to very large karst cavities
- suitable for use in dry environments and against water pressure

The RASCOhybrid HMS317 polyurethane resins are added directly in controlled proportions during delivery of the cement suspension to the place of injection. This procedure allows immediate, flexible adjustment based on ongoing observations during injection – whether by speeding up/slowing down the gel time or reducing/increasing viscosity.

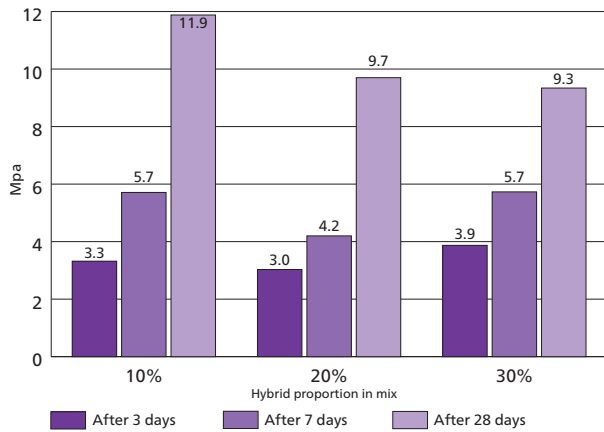
RASCOhybrid HMS polyurethane resin is a two-component reaction resin designed for use with cement suspensions. For localized applications, it can also be delivered and injected with a low to zero proportion of cement suspension to achieve a local increase in flexural tensile strength. However, pure RASCOhybrid HMS polyurethane resin offers only limited suitability for standard two-component injection grouting.

To meet enhanced demands of this kind, RASCOflex GT731 can be additionally injected without any limitations.

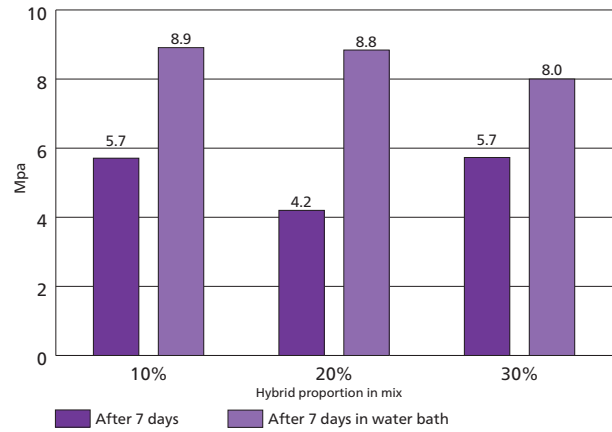
RASCOhybrid HMS AC is used to control the gel time and early strength of the hybrid mortar system. The relevant decisions are taken and the accelerator added directly on site as required by the

local conditions. In addition to the ambient temperature, the rock mass and formation water temperatures are key factors. For very static, uniform injection stages, a factory-accelerated form of the A component, e.g. RASCOhybrid HMS317N A-Comp, can be supplied.

Early strengths



Early strength (dry vs. water bath)



Tested compressive strengths only apply to CEM II/B-M (S-T) 42,5 R, use of other cements possible.

Proportion of hybrid mortar (RASCOhybrid HMS polyurethane to cement)



Pure cement suspension



20% proportion



30% proportion

SUPPLIED FORM

Kits with 19.8 ltr canisters are best suited for small to medium-sized injection projects. For larger-scale injection operations, 1,000 ltr IBCs are recommended. RASCOhybrid HMS AC is available in 4.8 or 19.2 litre canisters.

For further information on delivery sizes, please consult the relevant technical data sheets.

EXPERT REPORTS

- Impact on groundwater hygiene, MFPA Leipzig, Germany
- Ageing behaviour, MFPA Leipzig, Germany
- Compressive strength development, FHNW Muttens, Switzerland
- Further reports on request



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