Logic UH

Technical Data Sheet

Strong and watertight connection of precast concrete elements

General information

Connections between hydrated concrete and fresh concrete or between hardened concrete parts get so strong a bond by bonding with Logic UH, that in the bending pressure test not the splice but the concrete breaks. The same applies to thin screed and concrete layers applied to old hydrated concrete or screed. Concrete prefabricated parts, wall elements, prefabricated concrete rings, multi-repairing prefabricated concrete chambers, etc. can be easily, quickly and safely, non-positively and waterproof mounted on concrete floor panels. Above all, the ground connection between the prefabricated elements (in forms) and freely concreted floor slabs results in cavities being created between the finished element and the floor slab, which must be leveled and closed with mortar. Logic UH mortar is predestined for this purpose. Logic UH mortar not only bonds the concrete parts with force, but also hardens pores and waterproof. For this purpose, a Logic UH mortar consisting of approx. 80-90% (largely dry) quartz sand and approx. 10-20% Logic UH is produced and applied to the wall area of the prefabricated part to be placed in a 1-2 cm thick layer on the base plate. The precast concrete part is placed in the fresh, non-hardened Logic UH mortar. The Logic UH mortar is thereby displaced laterally until the concrete precast element rests on a 1-2 mm (depending on the sand grain diameter) thick layer of Logic UH mortar. The mortar compensates for all voids. Swelled Logic UH mortar on the side can be picked up before curing and reused. The long pot life of Logic UH of 3-4 hours (at 20-22 ° C) facilitates working with Logic UH mortar. By using the Logic UH Rapid Hardener, the pot life is reduced to approx. 30 minutes. By mixtures consisting of normal and rapid hardener, the pot life in the range mentioned can be continuously adjusted to special requirements.

Application examples

Waterproof setting of concrete rings

Logic UH is also an excellent aid in watertight setting of multi-repairing prefabricated concrete parts. Finished parts with tongue and groove (concrete rings, concrete boxes, etc.) are set so that the groove of the finished part is facing upwards. For the application on the base plate, the Logic UH mortar is thickened with Logic adjusting agent so far that it is only slightly flowable. Apply a spatula layer of 2-3 cm thickness using a spatula or mortar box. The finished part is placed in the fresh Logic UH mortar. The spring of the attached part dips into the Logic UH mortar (Fig. 1). The mortar compensates for the uneven floors, the cured compound is non-positive and waterproof. To fill the upper prefabricated groove (in multi-repairing construction), this Logic mortar can also be used without thickening agents. The groove filling should have about 1/3 of the groove height. Lower filling may leave leaking areas if the top part of the spring is not or not fully immersed in the Logic UH mortar. Too high groove filling leads to overflowing mortar when inserting the upper part.

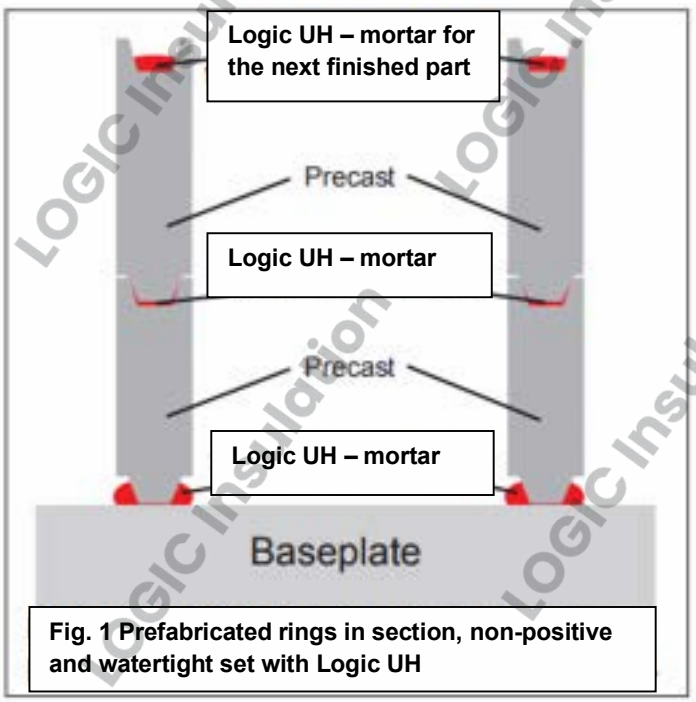

Fig. 1 Prefabricated rings in section, non-positive and watertight set with Logic UH

Waterproof connection of concrete pipe/steels

The same applies to the watertight and non-positive connection of concrete pipe/steels. The Logic UH mortar is thickened with Logic-adjusting agent to the fillable mass and filled in a layer thickness of 2-3 cm in the groove of the tube. The next pipe/steel element is pushed with its spring into the groove filled with Logic UH mortar. Again, corrections in the centimeter range are possible without losing the seal. As Logic UH mortar is considerably more elastic than mineral mortar even after hardening, Logic UH mortar even compensates for minor subsequent movements of the tubing without loss of sealing effect. If major ground movements are foreseeable in buried pipe/steellines, Logic-Megaflex should be used instead of Logic UH mortar for the pipe/steel joint. Logic-Megaflex, Shore hardness 30, compensates for up to 50 centimeters of horizontal or vertical misalignment of the pipe/steel in a 100 meter long pipe/steel consisting of 50 pipe/steel elements without overloading the ductility of the joint.

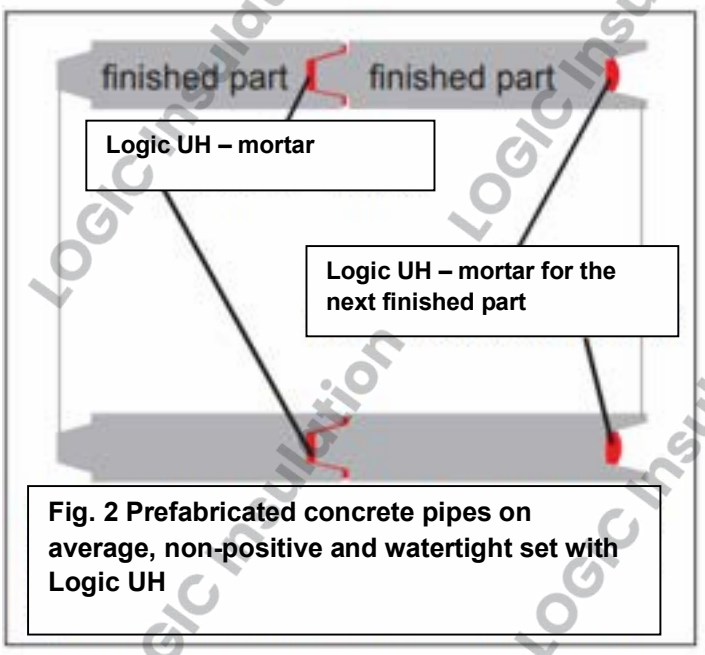

Fig. 2 Prefabricated concrete pipes on average, non-positive and watertight set with Logic UH

Installation of concrete wall elements

When assembling prefabricated wall elements made of concrete, it is not possible to apply the seals of the floor connection joint that are normal for in-situ concrete, such as joint tapes or injection hoses. Inaccuracies in the surface of the bottom plate must be compensated by means of a mortar layer under the finished element. Cement-bound mortars have only low adhesion and cohesion, so that even small height corrections (in the millimeter range), after immersion of the finished element in the mortar, lead to the demolition of the mortar and a leaky bottom joint. A typical cause of this problem is, for example, the vertical orientation of a set wall element. Logic UH mortar has a high adhesion to the concrete even when fresh (before hardening). The strong cohesion of the Logic UH mortar compound does not cause the mortar to break away from the wall element, even with minor height corrections (up to 2 cm) on the finished wall element (Figures 3 + 4). When the finished part is lowered, Logic UH mortar (Fig. 3, center, green ring), which has been displaced laterally, is sucked under the finished part (picture 3, right, green ring) when lifting (correcting) the finished part, eg for vertical alignment.

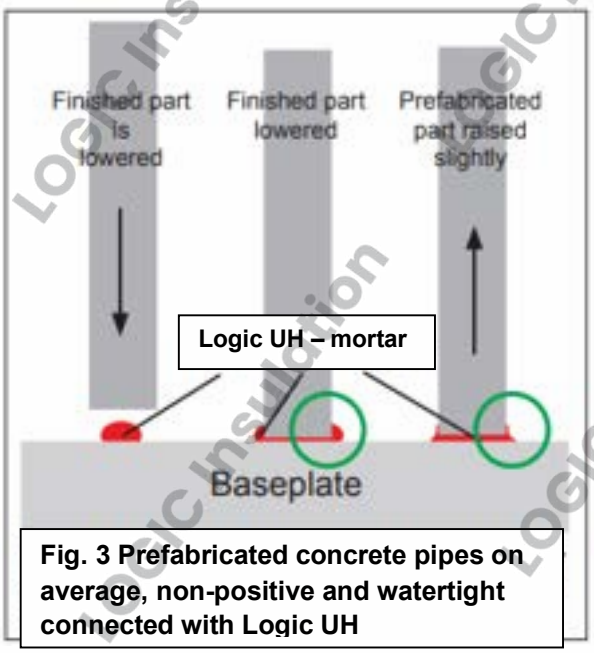

Fig. 3 Prefabricated concrete pipes on average, non-positive and watertight connected with Logic UH

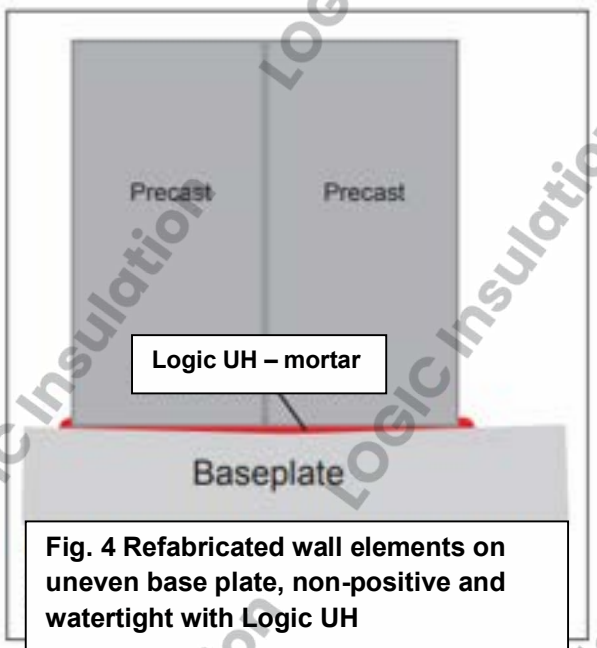

Fig. 4 Refabricated wall elements on uneven base plate, non-positive and watertight with Logic UH