

Surface preparation of concrete prior to NB 1 grey application

OVERVIEW

Koster NB 1 Grey is a very high-performance waterproof coating designed to resist negative side water pressures in excess of 10 Bar. In order to achieve these results, it is imperative that surface preparation is carried out with due diligence. We recommend that in order to achieve a perfect adhesion to concrete the pull-off strength at the surface of the concrete should be more than 1.5 n/mm². The main structure of any new concrete used in construction will easily achieve this figure.

However, the surface of the concrete after striking the shuttering can be contaminated with release oil and will normally have an outer layer made up of weaker concrete paste (without aggregate). It will also tend to be closed pore, meaning it would be very difficult for the Koster NB 1 Grey or any other coating to form a mechanical key to the surface. It is therefore vital that the surface is prepared in such a way as to remove any release oil and weak surface material and to open up the pores of the concrete.

Different contractors have different preferred methods of surface preparation. These could include High Pressure Water Jetting (this is done with an industrial jetting machine producing pressures of 350 bar, not a domestic pressure washer used for cleaning cars), Surface grinding, sand/grit blasting, needle gunning (particularly good for removing old coatings) and Ice blasting.

TEST CHECK

After preparation the concrete surface should be checked with a pull off test, however it is sufficient to check the surface with the following steps: -

Visual examination – can you see the open pores of the concrete?

Hardness test – run a nail or similar over the surface with firm hand pressure, while there may be some slight marking of the substrate there should be no significant indentation and no evidence of powdery residue.

Touch test – run your fingers over the surface, it should have a slightly rough feel, not very smooth like polished stone. If the surface preparation is carried out carefully and the above checks are used to determine that the surface is suitable then you are ready to apply the NB1 System as specified. This will normally include the use of Koster Polysil TG 500 (primer/anti-lime inhibitor), the addition of SB Bonding Emulsion to the NB 1 water-mix and may also include a Restoration Plaster finish.

