Advice Sheet 5: **Waterproofing of External Basement Walls with Thick Film Sealant**
A Step by Step Guide using Deuxan 2C Extratight

Step 1- The Structure

Köster Deuxan 2C Extratight is generally used for external waterproofing of basement walls where the basement slab has already been waterproofed, either with **Deuxan** or by another means e.g. by the addition of waterproofing add-mixtures to the concrete or the use of sheet membranes such as **Bikuplan AW 15**. In the case of waterproof concrete the **Deuxan 2C** overlaps onto the side of the slab. Sheet waterproofing systems will extend beyond the slab horizontally or up the side of the slab vertically depending on the system used. In both cases the **Deuxan** will overlap onto the sheet system to provide a continuity of waterproofing.

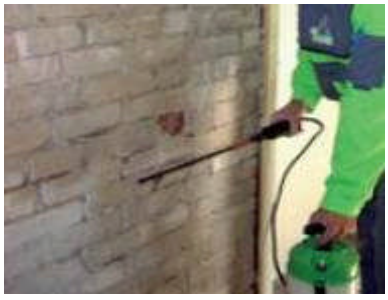
Step 2 – Surface Preparation

The area to be waterproofed needs to be clean and dry (or slightly damp). A suitable cleaning method would be high pressure water jetting. All internal angles should be rounded by installing a fillet of **Repair Mortar Plus** with the addition of 20% **SB Bonding Emulsion** to the mix water. All external 90 degree angles should be chamfered off at 45 degrees. Any voids should be filled with the same **Repair Mortar Plus / SB Bonding Emulsion** combination.

If the lower region of the basement wall / floor slab has already become wet and is still holding moisture then it is prudent to coat this area with one coat of **NB1 Grey** sealing slurry (1.5kg/sq.m.). This will keep any moisture locked within the substrate and will not allow it to interfere with the bond of the **Deuxan.** In new constructions it is also important to protect the Deuxan from negative side water pressure, for instance if the basement or basement wall cavity has filled up with water. Precautions should be taken to prevent this from happening and in any event Deuxan must not be applied until all negative side water pressure influences have been removed.

Step 3 - Priming

The **Repair Mortar** fillet should be left to cure for at least 24 hours before priming. All absorbent mineral surfaces should be primed with Köster **Polysil TG500** (usage approx 115g/sq.m.). This unique liquid is applied with a hand pump sprayer. **Polysil** hardens mineral surfaces, blocks salts within the structure and at the same time provides a good surface for the following layers to adhere to. Allow to dry for at least 20 minutes.



If the substrate is non-absorbent, or has bitumen residue from a previously applied system then a bitumen based primer is recommended such as Köster **KBE Liquid Film** thinned 1 to 2 with water (usage of **KBE Liquid film** approx 125g / sq.m). **KBE Liquid film** is applied by paint brush and should be touch dry before application of the following layer.

Step 4 – Mixing

Deuxan 2C Extratight is a two component coating. Gradually add the powder to the liquid in portions. Continually mix both components intensively with each other using a slow rotating stirring device until the material becomes a paste like, lump free, homogeneous mass (mixing time is min. 3 minutes).

Step 5 – First Coat

Apply the **Deuxan 2C** by trowel. The appropriate wet film thickness is spread on the wall using a notched or gauging trowel before smoothing to an even finish. *Note: In hot weather conditions it is best to apply Deuxan only in the shade as direct sunlight to the fresh coating can cause air vapour bubbles to form. The risk of such bubbles can also be reduced by first applying a very thin scratch coat of Duexan 2C to fill any voids or blow holes in the surface structure.*

For protection against ground moisture / non-retained seepage Usage rate is 2kg/sq.m.per coat (2 coats each 2kg/sq.m.) Wet film thickness per coat is 2mm drying to 1.5mm.

For protection against retained seepage or pressurised water
Usage rate is 3kg/sq.m.per coat (2 coats each 3kg/sq.m.) Wet film thickness per coat is 3mm drying to 2mm.

Step 6 – Reinforcement

It is recommended to embed Köster **Glass Fibre Mesh** into the still fresh first coat of **Deuxan** at all joints and junction as well as any crack endangered areas. The Mesh is simply laid on to the **Deuxan** and gently smoothed in with the trowel.

Step 7 – Second Coat

Deuxan 2C can be applied wet on wet with overcoating taking place as soon as the first coat is starting to firm. Take care not to damage first coat with trowel while applying the second coat. Layer thickness / usage rates as in step 5 to give a total dry film thickness of 3mm for ground moisture / non-retained seepage and 4mm for retained seepage / pressurised water.

Step 8 - Protection

After application **Deuxan 2C** should be protected from frost, rain and strong sunlight. The material also needs temperatures is excess of 5 deg.C to cure. **Deuxan** will resist light rain after approx. 2 hours curing time but can be made instantly rainproof by spray applying a thin layer of Köster **BE Rainproof** on top of the final layer. This instantly cures the very top surface of the **Deuxan**, thus protecting from rain. It should be noted that at this stage the **Deuxan** is not cured through and will still need protecting from frost and mechanical damage.

Deuxan 2C should always be protected before backfilling, suitable protection layers could be polystyrene insulation sheets, bituminous protection boards or ideally a purpose made drainage / protection material such as Köster **SD Protection and Drainage Sheet**. The protection layer can be spot bonded with **Deuxan 2C** or mechanically fixed at the top edge (above ground level). Installation of protection layer and subsequent backfilling should not take place until **Deuxan 2C** is fully cured (min.24 hours).

Note: You can check if the Deuxan 2C is properly cured by pressing a thumb onto the surface and twisting slightly, then releasing. If the Deuxan shows an elastic recovery to the initial position and does not stick to the thumb then the material is sufficiently cured.

Spray Application

Deuxan Professional is now also available; this product has been developed specifically for spray application. This makes the coating of larger areas very quick and easy. Contact us for further information.

Köster Products referred to in this advice sheet:-

Product Code	Product name
1.16	Deuxan 2C Extratight
10.31	Bikuplan AW15
5.03	Repair Mortar Plus
2.11	SB Bonding Emulsion
3.021	NB1 Grey
4.01	Polysil TG500
1.13	KBE Liquid Film
11.01	Glass Fibre Mesh
7.23	BE Rainproof
11.40	SD Protection and Drainage Sheet

For further information or guidance on any Köster products, please contact Aquatecnic:-
Tel: 0845 2268283 (local rate) or 01387 270252 e-mail: info@aquatecnic.net
web: www.aquatecnic.net

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