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BUILDING TRUST


SEALANTS AND MEMBRANE – ARE YOU DOING IT RIGHT?

One of the typical areas of concern that I come across regularly on site is without a doubt membrane application in conjunction with sealants.

To explain the applications further, this is regarding Class III bond breaker/ fillet joints at floor to wall or wall to wall junctions; expansion joint details; window threshold membranes requiring a joint sealant from the window to the membrane; and membrane termination details. (Just to list a few.)

People regularly say 'just put some Sikaflex in it' or 'throw some PU in there' and think that this is perfectly fine and compliant. As a supplier I can state that we sell multiple types of PU sealants (and membranes) and that if we could have only one type of sealant to do all applications don't you think we would simplify what we offer to the market? Not all sealants are the same! Whether it's chemical composition, or the physical properties of the product, they all react and perform different and you should consult your local manufacturer on what is the most suitable product for the application you are undertaking.

Curing- This would have to be the most common defect that is seen throughout the market. Typically a PU sealant will 'tack off' within a couple of hours but only 1-2mm will actually cure the first day. Generally a fast cure PU sealant will take a couple of days to reach full cure, this is completely dependent on the thickness of the application so expect to allow more time if you're filling larger gaps with the product. Now how many job sites do you really see the sealant left for multiple days before membrane application? It's a scary thought.

There are plenty of 'MS polymer' or 'solvent free' PU sealants on the market these days; regardless of the technology they all generally release some form of bi-product during the curing process and most importantly must be left to fully cure. Regularly I hear from contractors that using a solvent free sealant means they can install the membrane quicker; this is not the case, it may not gas and cause bubbling of the membrane but you still must allow for full cure of the sealant before membrane application, no exceptions. Therefore if you are waiting for full cure of the sealant, does the technology of what is being installed really matter? (food for thought)

Applying a membrane over a sealant before it's fully cured typically can cause two main issues:

1.) The sealant is still gassing and will retard the membrane from curing; this causes bubbles/blisters in the membrane and even if it eventually cures and membrane is now defective;

2.) If the membrane is applied over the sealant too quickly, the sealant may run the risk of not curing completely. Most sealants are moisture curing, so with no access to moisture/atmosphere as its sealed from a membrane, the curing reaction will slow down and eventually stop.

I've been on various sites where sealant details/joints have been cut out 6 months after installation and the sealant is still un-cured once you cut into the surface.



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Window Thresholds- This is an area of concern that needs to be addressed nationally. Most contractors think that a water-based membrane and a PU/MS sealant is all that's required. Sometimes this is the case but contractors/builders need to realise that not all water-based membranes are the same. SBR/Latex membranes really don't like PU sealants and typically require primers for adhesion, water-based PU acrylic membranes typically adhere well but UV stable versions of these membranes with titanium dioxide and certain pigments can perform very differently and require primers for adhesion in some instances. **In summary, the only membrane and sealant that should be used on a window threshold is the one where a supplier can provide an 'adhesion test report' showing adhesion and compatibility testing between the two materials otherwise you are taking the ownership on and this can end up being a costly exercise.**

Key message- 'Compatibility is King!'

Contractors are not chemists and aren't expected to know all the answers; utilise your product suppliers knowledge and only use tested systems to mitigate liability.

Kind Regards,

Kieran Biber
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| Characteristics /Usage | Sikaflex PRO | Sikaflex Self Levelling | Sikaflex 11FC | Sikaflex Facade | Sikaflex Tank N | Sikaflex 400 Fire |
|------------------------|--------------|-------------------------|---------------|-----------------|-----------------|-------------------|
| Shore A Hardness | 23 - 27 | 45+/- 5 | 38 | 20 | 35 | 25 |
| Elastic Recovery | >80% | >90% | | >90% | >80% | >85% |
| Elongation at break | >500% | >700% | >350% | >800% | >700% | >650% |
| Skinning time | 2-4 hrs | 2-4 hrs | 40 min | 70 min | 90 min | 3 hrs |
| Cure Rate (24hrs) | 2mm | 1-2mm | 5mm | 3mm | 2.5mm | 1.5mm |

