TECHNICAL BULLETIN
Calcium Silicate (Calsil) Adhesion

Date: July 28, 2000

SUBJECT: ADHESION PROPERTIES OF MEMBRANES TO CALCIUM SILICATE PIPE INSULATION

PRODUCTS TESTED: ***Insulrap 30-SJ, Insulrap 50-SJ, and Alumaguard***

TEST METHOD: Manual Peel Resistance Pressure Gauge

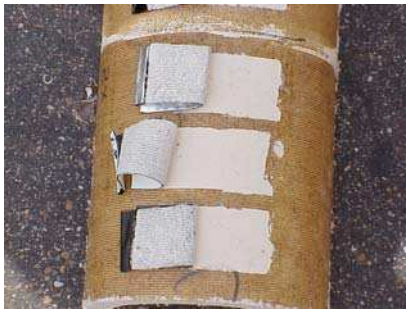
TEST CRITERIA:
One half section of Johns Manville 4" x 1", T-12® Calcium Silicate pipe insulation was cut in half making two 18" long half sections. To one piece, an application of Polyguard Solvent Based Activator was applied to 9" of the length, and two coats applied to the other 9" of length. Dry time between coats was 15 minutes. The application of 2" x 6" strips of the listed membranes was applied 30 minutes after application of the activator and rolled with a roller. To the second piece, an application of ***Polyguard Water Based Activator*** was applied to 9" of the length, and two coats applied to the other 9" of length. Dry time between coats was 15 minutes. The application of 2" x 6" strips of the listed membranes was applied 30 minutes after application of the activator and rolled with a roller. All samples were placed in the warehouse at approximately 80° F for 24 hours. The samples were then pulled off the calcium silicate pipe insulation using a hand held peel resistance pressure gauge.

TEST RESULTS:
The following are the forces required to separate the membrane from the pipe insulation: it should be noted that in all cases, the fabric on the outside of the calcium silicate pipe insulation came loose (was torn off) prior to the membrane releasing from the substrate.

PRODUCT	*WB 1 Coat*	*WB 2 Coat*	*SB 1 Coats*	*SB 2 Coats*
Alumaguard	3.3 LBS	5.3 LBS	25.0 LBS	7.7 LBS
Insulrap 50-SJ	5.7 LBS	3.9 LBS	10.0 LBS	10.8 LBS
Insulrap 30-SJ	4.2 LBS	3.5 LBS	7.2 LBS	5.0 LBS

CONCLUSIONS:
The application of ***Polyguard's*** membranes on calcium silicate pipe insulation is not only successful, but exceeded our expectations and we can recommend the installation of our waterproofing membranes over calcium silicate insulation.

Solvent Based Activator



Water Based Activator

Alumaguard would be the best candidate and our recommendation would be to apply either one coat of SB activator or 2 coats of WB activator to the pipe insulation prior to installing the ***Alumaguard***. If waterproofing were desired under a mechanical jacket, we would recommend ***Insulrap I-50-SJ or I-30-SJ*** with one coat of either SB or WB activator. The only criteria that would have to be observed would be to insure that the surface temperature of the calcium silicate pipe insulation would not to exceed 150° F.

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