

Adhesion Properties of a  
Concrete Surface Treated  
with Ashford Formula  
December 29, 2003



## **Paint and Tape Adhesion Test Results (Reference ASTM D4541-02)**

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### **PRODUCTS TESTED**

1. Tnemec N69F-02SF thinned 5% with 41-4 thinner @ 8.0-9.0 mils WFT (wet film thickness). Series 1, Epoxy
2. Tnemec 280-02SF thinned 5% with 41-2 thinner @ 8.0-10.0 mils WFT. Series 2, Epoxy
3. Tnemec 290-02SF thinned 3% with 31-09 thinner @ 3.0-5.0 mils WFT. Series 3, Urethane
4. Tnemec N69F-02SF thinned 20% with 41-4 thinner @ 3.0-6.0 mils WFT (first coat). Series 4 Tnemec 290-02SF thinned 3% with 41-39 thinner @ 3.0-5.0 mils WFT (second coat). First coat epoxy, second coat urethane
5. Tnemec N69F-02SF thinned 20% with 41-4 thinner @ 3.0-6.0 mils WFT (first coat). Series 5 Tnemec N69F-02SF thinned 5% with 41-4 thinner @ 6.0-8.0 WFT (second coat). Epoxy
6. Sherwin Williams Tile Clad @ 4.0-7.0 mils WFT. Epoxy
7. Sherwin Williams Poly-Lon 1900 @ 3.0-4.5 mils WFT. Urethane
8. INSL-X EP5200 @ 16.0 mils WFT. Epoxy
9. Tamms Aquathane @ 3.0-6.0 mils WFT. Urethane
10. Sonneborn Prime and Kote @ 4.0 mils WFT. Epoxy
11. 3M Vinyl Tape 471

### **PURPOSE**

To evaluate differences that the Ashford Formula may make in the adhesion of paint or tape to a smooth steel-troweled concrete slab.

### **TEST METHOD**

- A 27.6 Mpa (4000 psi) slab was placed and finished in indoors in a 12.8 °C (55°F) temperature environment. The slab was allowed cure for 3 days.
- Ashford Formula was applied to one-half of the Test Slab as per the manufacturers application instructions for new concrete.
- Paint and Tape samples were applied to both halves of the Test Slab when the slab was 28 – 42 days old after washing with clean water.
- Paint and Tape samples were applied to an 18 year old, mature Ashford Formula, steel troweled warehouse floor after washing with clean water.
- Three dollies were epoxied to each sample area after the paint had cured 7 days.
- After the epoxy had cured for two days the dollies were pulled-off using ASTM D4541-02 Standard Test Method for pull-Off Strength of Coatings Using Portable Adhesion Testers. Test method A5 Self-Aligning Adhesion Tester Type V was used.

Curecrete Distribution Inc. has made no attempt to determine if one coating has better adhesion properties over another. All products chosen were used because of local availability. Other manufacturers' products will have different characteristics than the ones used. Curecrete does not recommend one product over another.

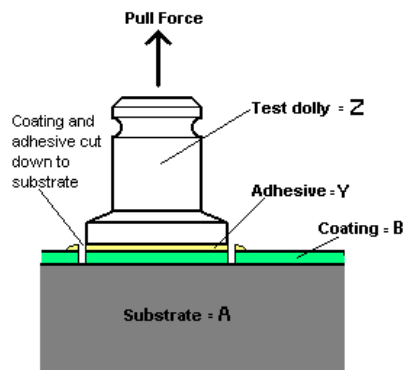
## Test Results

<b>Mpa</b>		<b>Average Test slab with Ashford Formula</b>	<b>Average Test slab Control</b>	<b>Average 18 year old mature Ashford Formula floor</b>
dnb = did not break loose at maximum pressure of 4 Mpa				
1	Tnemec Series 1	2.82	2.27	dnb
2	Tnemec Series 2	2.99	3.33	dnb
3	Tnemec Series 3	2.81	2.40	dnb
4	Tnemec Series 4	2.65	2.26	dnb
5	Tnemec Series 5	3.37	2.60	dnb
6	SW Tile Clad	1.91	2.00	dnb
7	SW Poly Lon 1900	2.07	3.30	dnb
8	INSL-X EP5200	3.29	3.49	3.79
9	Tamms Aquathane	3.81	3.22	3.40
10	Sonneborn Prime&Kote	1.61	1.05	3.95
11	3M Tape 471	1.41	2.20	1.34

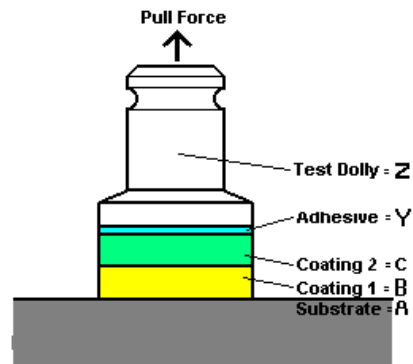
<b>Psi</b>		<b>Average Test slab with Ashford Formula</b>	<b>Average Test slab Control</b>	<b>Average 18 year old mature Ashford Formula floor</b>
dnb = did not break loose at maximum pressure of 560 psi				
1	Tnemec Series 1	384.00	331.20	dnb
2	Tnemec Series 2	434.13	484.27	dnb
3	Tnemec Series 3	407.47	348.80	dnb
4	Tnemec Series 4	384.00	329.60	dnb
5	Tnemec Series 5	490.67	377.60	dnb
6	SW Tile Clad	278.40	291.20	dnb
7	SW Poly Lon	301.87	478.93	dnb
8	INSL-X EP5200	480.00	507.73	544.00
9	Tamms Aquathane	539.73	468.27	497.07
10	Sonneborn Prime&Kote	234.67	153.60	560.00
11	3M Tape 471	134.40	321.07	198.40

## Failure Area

Coating Number	Product	Test Slab 28 – 42 days old when coatings were applied						18 Year old Mature Ashford Formula Slab		
		AF-a	AF-b	AF-c	Cont-a	Cont-b	Cont-c	AF-W-a	AF-W-b	AF-W-c
1	Tnemec Series 1	A/A	A/A	A/A	A/A	A/A	A/A	Y/B	dnb	dnb
2	Tnemec Series 2	A/A	A/A	A/A	A/A	A/A	A/A	B/A	A/A	dnb
3	Tnemec Series 3	A/A	A/A	A/A	A/A	A/A	A/A	dnb	dnb	dnb
4	Tnemec Series 4	A/A	A/A	A/A	A/A	A/A	A/A	dnb	dnb	dnb
5	Tnemec Series 5	A/A	A/A	A/A	A/A	A/A	A/A	dnb	dnb	dnb
6	Sherwin Williams Tile Clad	A/A	A/A	A/A	A/A	A/A	A/A	dnb	dnb	dnb
7	Sherwin Williams Poly Lon 1900	A/A	A/A	A/A	A/A	A/A	A/A	dnb	dnb	dnb
8	INSL-X EP-5200	A/A	A/A	A/A	A/A	A/A	A/A	B/A	A/A	Y/B
9	Tamms Aquathane	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A
10	Sonneborn Prime&Kote	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A
11	3M Tape 471	B/A	B/A	B/A	B/A	B/A	Y/B	Y/B	Y/B	Y/B



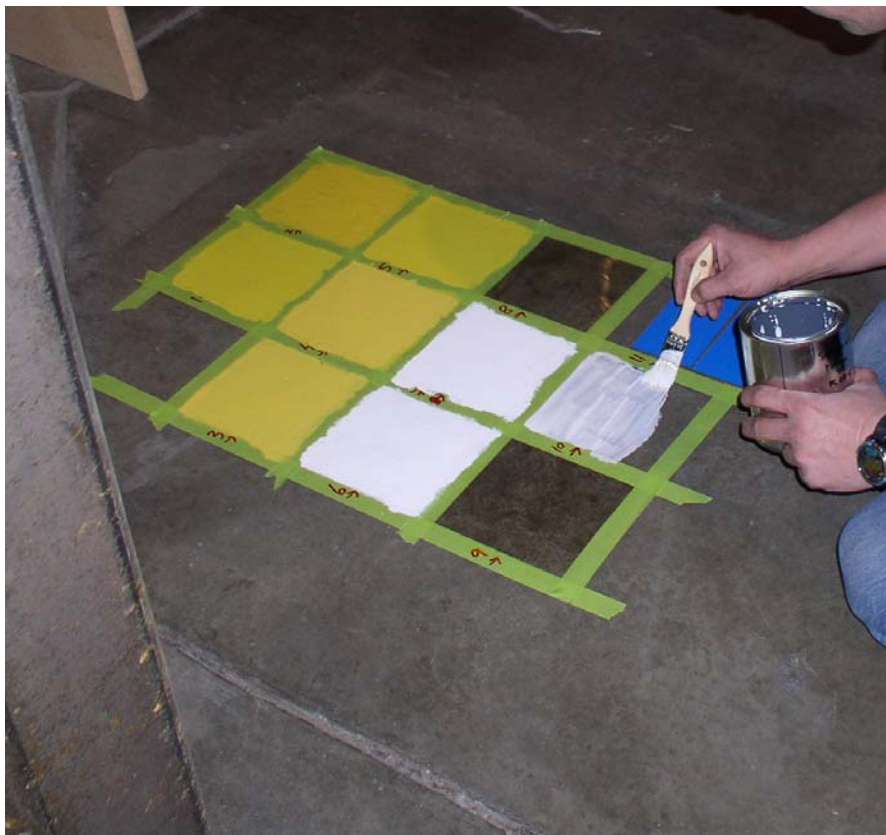
Coatings 1,2,3,6,7,8,9,10,11



Coatings 4,5

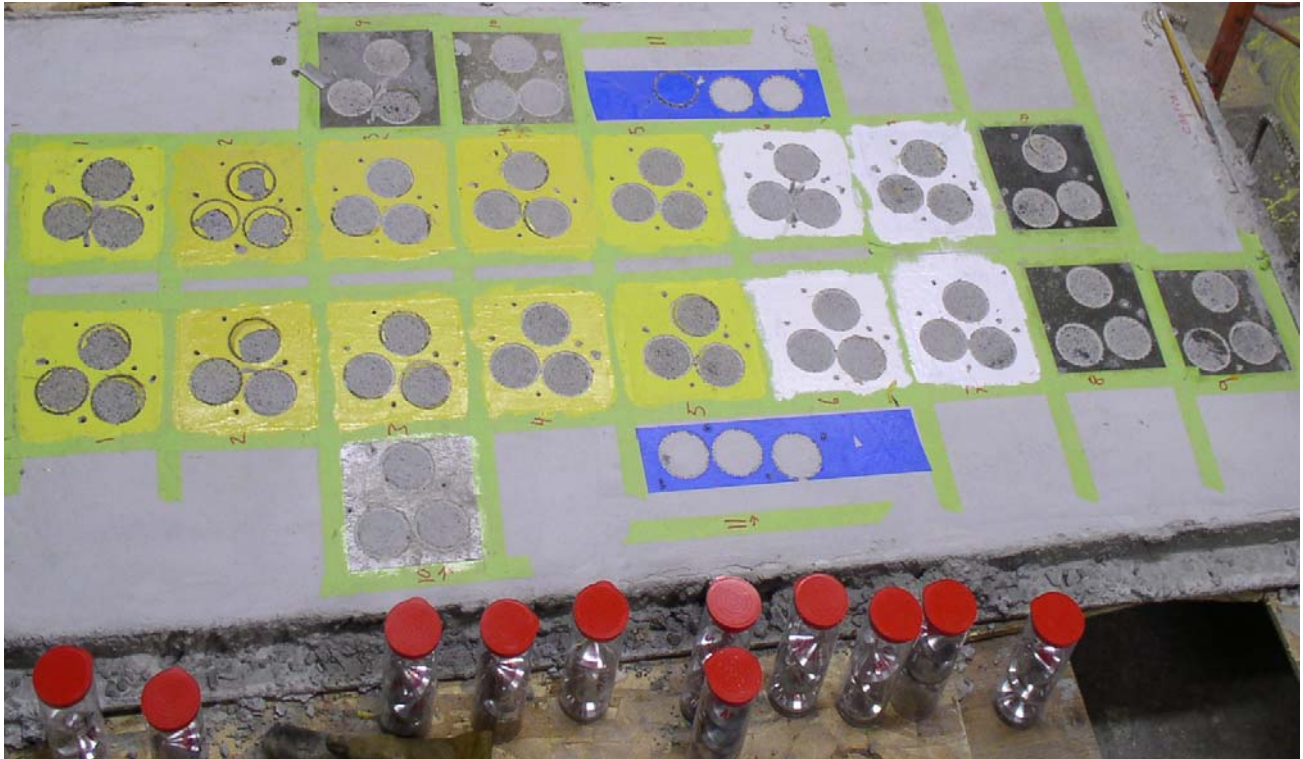


Test Slab; untreated concrete left side, Ashford Formula treated concrete right side.

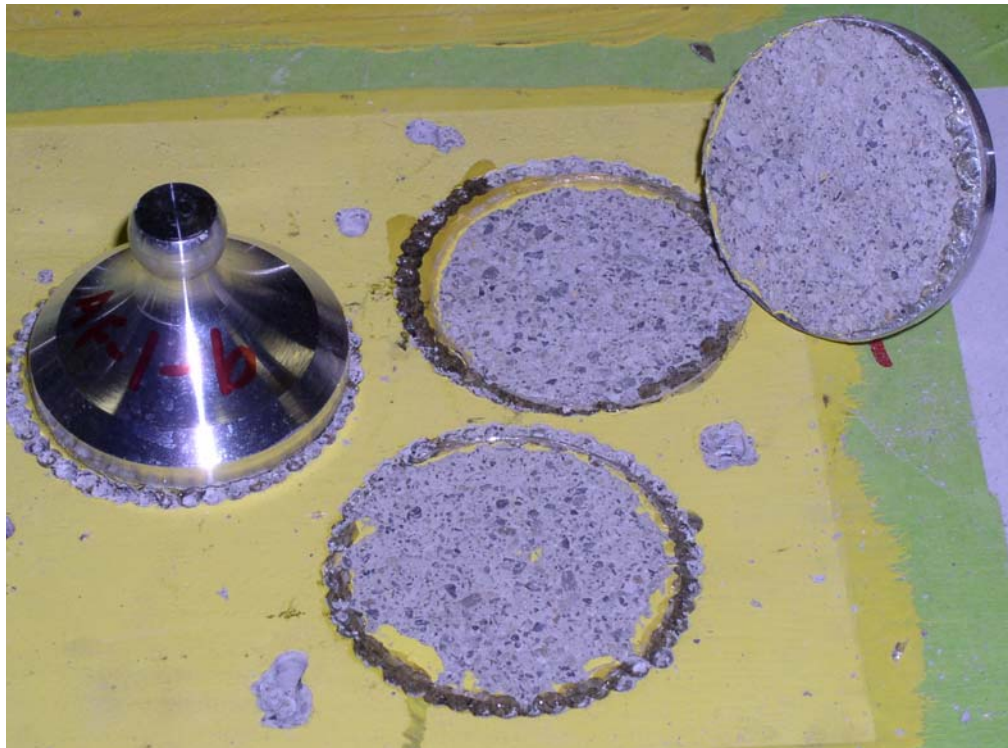


Mature Ashford Formula treated floor





Test Slab after removal of dollies



Dolly prior to and after removal