

Laboratory Report

Nationwide Chemical Coating

11/11/04

CON 04-173 Project

ASTM D 6083-97a

Standard Specification for Liquid Applied Acrylic Coating Used in Roofing

Physical Property	ASTM Test	Requirement	DFC-W Rhino Shield	Permabond Ultra Prime
I Colloidal properties				
Viscosity (KU)	D 562	85-141	105.3	99.9
Viscosity (Brookfield LVT #4 @ 6 rpm)	D 2196	12-85 poise		
Volume solids (% calculated)	D 2697	>50		
Weight solids (%)	D 1644	>60	57.1	35.7
II Mechanical properties of the film				
Tensile-elongation testing conditions: (1/2" sample width, 1" jaw separation, 1"/minute speed of pull)				
A. After 14 days drying in standard lab conditions				
Tensile strength ¹ @ 73°F	D 2370	>=200 lb/in ²	377	65
Elongation ¹ at break @ 73°F	D 2370	>=100 %	398	2642
B. After 1000 hours aging in a Xenon Arc Weatherometer				
Elongation ¹ at break @ 73°F	D 2370	>=100 %	139	2279
Flexibility @ -15 °F (1/2" mandrel)	D 522	Pass		
Accelerated weathering (cracking & Checking)	D 4798	Nil	Nil	Nil
III Other properties of the film				
Wet Adhesion ² -Polyurethane foam	C 794/ D 903	>2 lb/in	0.11	0.89
Wet Adhesion ² -Galvanized	C 794/ D 903	>2 lb/in	3.40	3.92
Tear Resistance ¹ (Die C)	D 624	>60 lbf/in	133.0	29.1
Permeance ² - Inverted	D 1653A	<50 perms	32.7	3.2
Permeance- Upright	D 1653A	NR	24.3	3.9
Water swelling ¹	D 471	<20 weight %	11.9	37.6
Fungi resistance	G 21	Zero	ND	ND
IV Other non-required test results				
Dry Adhesion ² -Polyurethane foam	C 794/ D 903	NR	1.40	3.20
Dry Adhesion ² -Galvanized	C 794/ D 903	NR	10.42	4.40

NT = Not tested

NR = Not required

¹ Only three specimens tested

² Only two specimens tested.

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