

Tuff-Cover™ UV and Chemical Test Results

GOVERNING STANDARDS for Color Evaluation Test Exposure (Bottom of page)

ASTM G 147 - 02

Standard Practice for Conditioning and Handling of Nonmetallic

Materials for Natural and Artificial Weathering Tests

ASTM G 90 - 98

Standard Practice for Performing Accelerated Outdoor Weathering of Nonmetallic Materials Using Concentrated Natural Sunlight

EXPOSURE MEASUREMENT DATA

Exposure testing is performed in New River, AZ, in accordance with ASTM G90-98, SPRAY CYCLE 1 (EMMAQUA, day spray with night time wetting). The specimens are facing the sun.

EXPOSURE DATA

Location: New River, Arizona

Type of Test: EMMAQUA

Radiant Energy: Total: 29,482 MJ/m²;

704,643 Langley

UV: 900 MJ/m² (295-385 nm)

CHEMICAL RESISTANCE TEST

NES Mo133 Method 3

24 hrs. @ RT 73°

24 hrs. @ RT 176°

Gasoline	PASS	PASS
Diesel Fuel	PASS	PASS
Kerosene	PASS	PASS
Wax	Some Swelling	Watermarks
Windshield		
Wash Fluid	PASS	PASS
Detergent	PASS	PASS
Engine Oil	PASS	Watermarks
		Some Swelling
		Could be due to the heat.
Sulfuric Acid	PASS	Burn Marks

COLOR EVALUATION RESULTS 5 YR.

Evaluation Interval: 900 MJ UV of 900 MJ UV

Reading Type =		L*	A*	B*	Delta E*
CONVEX™ Supreme w/YELLOW	Initial--	89.24	-4.81	89.92	
Current--Wash		95.48	-1.67	1.09	
Delta E Reading		6.24	3.14	-88.83	89.10
CONVEX™ Supreme w/MAGENTA	Initial--	52.27	57.03	-7.55	
Current--Wash		59.86	50.16	-6.74	
Delta E Reading		7.59	-6.87	0.81	10.27
CONVEX™ Supreme w/CYAN	Initial--	61.03	-32.70	-41.32	
Current--Wash		84.15	-11.70	-8.26	
Delta E Reading		23.12	21.00	33.06	45.48
CONVEX™ Supreme w/BLACK	Initial--	24.76	0.82	0.94	
Current--Wash		28.13	0.50	1.05	
Delta E Reading		3.37	-0.32	0.11	3.39
TUFF COVER™ LAM. YELLOW	Initial--	87.08	-4.73	83.09	
Current--Wash		88.57	-10.13	70.38	
Delta E Reading		1.49	-5.40	-12.71	13.89
TUFF COVER™ LAM. MAGENTA	Initial--	52.55	53.52	-7.60	
Current--Wash		55.64	51.87	-8.54	
Delta E Reading		3.09	-1.65	-0.94	3.63
TUFF COVER™ LAM. CYAN	Initial--	60.55	-31.11	-38.81	
Current--Wash		61.22	-32.94	-30.42	
Delta E Reading		0.67	-1.83	8.39	8.61
TUFF COVER™ LAM. BLACK	Initial--	27.76	-0.28	-2.16	
Current--Wash		29.25	-0.23	-2.12	
Delta E Reading		1.49	0.05	0.04	1.49

Left Column: No Laminate / Right column: Tuff-Cover™ Laminate

