POLYMATE Ltd.
International Nanotechnology Research Center

ECPU 5851 W

Flooring, Indoor application

TECHNICAL DATA SHEET

PROPERTIES	UNIT	STANDARD	VALUE
General			
Type of the product	Two-component hybrid nonisocyanate polyurethane compound		
Use	Compound for indoor abrasive, impact and chemical resistant floorings		
Substrate	Concrete, cement cover		
Primer	Conventional primer might be required for some substrates		
Physical Properties			
Ratio of components (Base “A” : Hardener “B”)			~ 2A:1B
Viscosity after mixing (Brookfield RVDV II, Spindle 29, 100 rpm) at 77ºF (25ºC)	cP (mPa·s)	ASTM D2196	≤1300
Color			As requested
Pot life at temperature:	ºF (ºC) min		59 (15) 77 (25) 40 20
Thickness of the coating	mils (mm)		20-120 (0.5-3)
Solids Content Part A	%		99-100
Volatile Content	%	ASTM D2369-10	Part A – 0.5-1 Part B – 1-5
Application temperature	ºF (ºC)		+ 59-77 (+ 15-25)
Curing time at temperature: ❖ Dry-To-Touch Time ❖ Walk on ❖ Full cure	ºF (ºC) hours hours days	ASTM D1640	59 (15) 77 (25) 8 4 30 20 10 5

Performance Properties			
Salt Spray		ASTM B117-09	No blistering at 1000hous of exposure
Pull-off Adhesion Bond Strength	psi	ASTM D4541-02	**350-550** Adhesion bond broke at the paint/substrate interface in all tests
Impact resistance		ASTM D2794-93(2010)	No crazing, or loss of adhesion at 40 inch pounds
Tensile strength at break	psi (MPa)	ASTM D638-10	4200-7100 (29-49)
Tensile Elongation at break	%	ASTM D638	5-10
Hardness (Shore D)		ASTM D2240	75-80
Bound strength to concrete substrate		ASTM D4541 ACI 503.4-2322	Cohesive failure
Abrasion resistance (TABER, wheel CS-17, 1000g), loss of mass,	mg/1000 cycles	ASTM D4060	25-30
Coefficient of Friction		ASTM D2047	0.4-0.5
Thermal Testing	120 hours	ASTM C884/C884M-98(2010)	No cracking or delamination of samples
Chemical and Stain Resistance			
Water Absorption. Weight gain at immersion in water (24 h @ 77ºF / 25ºC)	%	ASTM D570-98(2010)e1	0.1- 0.5
Water resistance, immersion		ASTMD870-09	No change in color or blistering
Hydrochloric acid – 10 % HCl			Gloss reduction
Battery acid			Gloss reduction
Sodium hydroxide – 10 % NaOH			No effect
Sodium sulfate – 10 % Na_2SO_4			No effect
Gasoline			No effect
Diesel fuel			No effect
Motor oil			No effect
Skydrol (aviation hydraulic fluid)			No effect
Brake fluid			No effect
Transmission fluid			No effect
Hydraulic fluid			No effect
Vegetable oil			No effect
Alcohol			No effect