

ESSENTIAL CC-4560

ALIPHATIC POLYURETHANE/ACRYLIC HYBRID

DESCRIPTION

Essential CC-4560 is a Polyurethane/Acrylic Hybrid based on renewable sources, is HAP's-free and solvent-free. The bio-based content, 28%, gives it a rating of moderately bio-based. It can be formulated into non-yellowing coatings, low VOC coatings for wood, concrete and plastics.

KEY BENEFITS

- Bio-based
- Hap's-free
- Low VOC
- Non-yellowing

TYPICAL PROPERTIES*

Appearance	Translucent
pH	9.0
Solids, % by Weight	32
Solids, % by Volume	30.6
Viscosity, cP @ 25°C	< 300
Density Lbs./Gal.	8.72
VOC Level (As Supplied)	
Lbs./Gal.	< 0.58
G/L	< 70
Particle Charge	Anionic
Acid Number	27

**These values should not be interpreted as specifications.*

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F0509

TECHNICAL DATA

CC-4560

ESSENTIAL CC-4560

ESSENTIAL CC-4560 FILM PROPERTIES

All tests were performed on coatings kept at 77°F and 50% RH for seven days before testing.

Tensile Strength, PSI	3495
Elongation at Break, %	155%
Tests Performed on Aluminum Panels (1-Mil Dry Films)	
Konig Hardness (Seconds) (1 day, 7 day)	72, 90
Taber Abrader (Mg Loss, CS10, 500 Cycles, 1000g)	11

STARTING POINT FORMULATION

ESSENTIAL CC-4560 Clear 2-K Formulation

<u>MATERIALS</u>	<u>POUNDS</u>
Part A	
ESSENTIAL CC-4560	609.3
BYK094	3.8
SE-21	3.2
Mix under high shear until all defoamers are fully incorporated into the system	
Water	184.4
Zonyl FSO	0.3
 Essential R2083	 19.1
Part B	
Rhodocoat EZ-D803	82.4
	100.00 gal.
Pot life - 4 hours	
Formulation Attributes	
Solids, % by weight	30.0
Solids, % by volume	27.7
Calculated VOC (excluding water)	< 82 g/l

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PERFORMANCE INFORMATION

All tests were performed on coatings kept at 77°F and 50% RH.

Konig Hardness Development (secs)

1 Hour	27
2 Hours	32
3 Hours	39
24 Hours	72
48 Hours	82
72 Hours	85
1 Week	90

1 hour covered chemical spot test was performed on solid maple panels (3 coats, 1 mil dry per coat)

50% EtOH	Slight softening, fully recovers
70% IPA	Slight softening, fully recovers
Formula 409	No effect
10% NH ₄ OH	No effect
10% HCL	No effect
10% NaOH	No effect
10% H ₂ SO ₄	No effect
5% Bleach	No effect
Vinegar	No effect
Suntan lotion	No effect
Mustard	No effect

SUPPLIER INFORMATION

Product

Essential CC-4560
BYK 094
SE-21
Zonyl FSO
Essential R2083
Rhodocoat EZ-D803

Description

Urethane/Acrylic hybrid
Defoamer
Defoamer
Leveling agent
Anti-mar additive
Cross-linking agent

Supplier

Essential Industries
BYK-Chemie
Wacker Silicones
DuPont
Essential Industries
Rhodia