

WATERBORNE COATINGS GUIDE FORMULATIONS



LOW VOC, WATERBORNE CONTAINER MIDCOAT WITH NX-8101

- Waterborne system with VOC < 100 g/L
- Excellent adhesion to various metal substrates
- Fast wet-on-wet recoatability with long pot life
- Excellent corrosion protection at low film thickness

WATERBASED EPOXY COATINGS

AMBIENT-CURE, SUITABLE FOR
INDUSTRIAL APPLICATIONS

BASED ON RENEWABLE, CNSL-BASED
TECHNOLOGY

Guide Formulation

Ingredients	Formulation 1 (Weight/g)
Part A	
EPIKOTE 6520-WH-53 ² (Solid epoxy dispersion)	46.52
Water	10.80
BYK 1640 ³ (Defoamer)	0.29
Hexyl carbitol (Co-solvent)	3.17
Ti-Pure R-706 ⁴ (Pigment)	10.36
Cimbar EX ⁵ (Filler)	6.94
Wollastonite 10ES ⁶ (Filler)	10.36
HALOX SW-111 ⁷ (Inhibitor)	9.80
MICA WG-325 ⁶ (Filler)	0.72
HALOX 550WF ⁷ (Inhibitor)	1.04
Total Part A	100.00
Part B	
NX-8101 ¹ (waterborne Curing agent)	9.59
Flash X-150 ⁷ (Flash rust inhibitor)	0.27
Water	16.00
Total Part B	25.86

¹ Cardolite ² Hexion ³ BYK ⁴ Chemours ⁵ Cimbar ⁶ Imerys ⁷ ICL Phosphate Specialty

Formulation Properties

Properties	Formulation 1
VOC (gm/l)	99.02
% wt NVM	54.03
% wt Volatile	45.97
% vol NVM	39.44
% vol Volatile	60.56
% PVC	30.18
Epoxy/amine	1.25

Formulation Performance

Performance Tests	Formulation 1
Mandrel Bend	1/8"
Cross-hatch adhesion over S-36 CRS	4B
Cross-hatch adhesion over AA 2024 T3	4B
Cross-hatch adhesion over galvanized steel	3B

SALT SPRAY RESULTS FOR FORMULATION 1



790 hrs salt spray exposure
DFT = 50-60 microns over SA 2.5 blasted steel panels
7 Days cure at RT
Blister: very few
Creep: < 2mm

PROCESSING

1. Mix dispersant, defoamer, rheological additive and solvents into water in a metal vessel (having a water cooling system) with low speed agitation until uniform. Turn on the water cooling system to keep the vessel temperature under 50°C.
2. Add filler(s) and pigment(s) into water one by one at medium speed agitation to obtain a uniform paste.
3. Add solid epoxy dispersion into the paste at low speed agitation, gradually increase agitation speed to medium to obtain a uniform mixture of Part A.
4. Mix NX-8101 with Part A at low speed agitation, then add water, gradually increase agitation speed to medium to obtain a uniform mixture of paint, and add flash rust inhibitor to the paint in the end.
5. **Please refer to each supplier's material safety data sheet (MSDS) for the most current safety and handling information.**

DISCLAIMER

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