

# WATERBORNE COATINGS GUIDE FORMULATIONS



## LOW VOC, WATERBORNE CONTAINER MIDCOAT WITH NX-8401

- Waterborne system with VOC < 75 g/L
- Excellent adhesion to various metal substrates
- Long pot life at high temperature (45°C)
- 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	
NX-8401 <sup>1</sup> (Waterborne curing agent)	13.99
Water	20.28
TPnB (co-solvent)	0.98
BYK 1640 <sup>2</sup> (Defoamer)	0.17
DOWANOL PM (Co-solvent)	2.24
Ti-Pure R-706 <sup>3</sup> (Pigment)	6.99
Cimbar EX <sup>4</sup> (Filler)	9.79
Zeeospheres G 600 <sup>5</sup> (Filler)	13.99
Wollastonite 10ES <sup>6</sup> (Filler)	16.78
HALOX SW-111 <sup>7</sup> (Inhibitor)	12.59
MICA WG-325 <sup>6</sup> (Filler)	0.98
HALOX 550WF <sup>7</sup> (inhibitor)	0.84
Flash X-150 <sup>7</sup> (Flash rust inhibitor)	0.38
<b>Total Part A</b>	<b>100.00</b>
Part B	
DER 915 <sup>8</sup> (Solid epoxy dispersion)	63.30
<b>Total Part B</b>	<b>63.30</b>

<sup>1</sup>Cardolite <sup>2</sup>BYK <sup>3</sup>Chemours <sup>4</sup>Cimbar <sup>5</sup>Zeeospheres Ceramics <sup>6</sup>Imerys <sup>7</sup>ICL Phosphate Specialty <sup>8</sup>Olin

### Formulation Properties

Properties	Formulation 1
VOC (gm/l)	70.43
% wt NVM	60.32
% wt Volatile	39.68
% vol NVM	45.99
% vol Volatile	54.01
% PVC	37.93
Epoxy/amine	1.25

### Formulation Performance

Performance Tests	Formulation 1
Mandrel Bend	1/8"
Cross-hatch adhesion over S-36 CRS	5B
Cross-hatch adhesion over AA 2024 T3	5B
Cross-hatch adhesion over galvanized steel	5B
Pot life at 45°C	> 6 hours

## SALT SPRAY RESULTS FOR FORMULATION 1



767 hrs salt spray exposure  
DFT = 2.2 mils over SA 2.5 blasted steel panels  
7 day RT cure  
Blister: none  
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 55°C.
2. Add filler(s) and pigment(s) into water one by one at medium speed agitation to obtain a uniform paste.
3. Add NX-8401 into the paste at low speed agitation, gradually increase agitation speed to medium to obtain a uniform mixture of Part A.
4. Mix Part A with solid epoxy dispersion at low speed agitation, then add water, and gradually increase agitation speed to medium to obtain a uniform mixture of paint.
5. **Please refer to each supplier's material safety data sheet (MSDS) for the most current safety and handling information.**

## DISCLAIMER

All statements, technical information and recommendations contained herein are based on tests Cardolite believes to be reliable, but the accuracy or completeness thereof is not guaranteed or warranted either express or implied including but not limited as to merchantability or fitness for a particular purpose. The formulations contained herein are not optimized for any particular use and are therefore, only to be considered as references. It is the responsibility of the user to fully test their formulations for the intended use. Use of the product is at the user's risk.



Cardolite Corporation  
140 Wharton Rd  
Bristol, PA 19007  
United States of America  
T: +1-800-322-7365  
www.cardolite.com