

Waterborne Epoxy

Hints and tips:

- Addition of AX1 EF solo, additions of up to 1.5% - 2% wt loadings.
- For co-blending synergy a loading ratio of 1:1 by weight of full formula seems to be ideal, up to 2%.
- Mixing into a slurry with other items requiring high shear dispersion prior to adding to the amine can help stabilise.
- Recommend longer cure time to enable promotion of lone pair bonding DTM improving adhesion – minimum 4 hours for topcoat application – 7 days for service.
- AX1 EF is acidic so we recommend balancing pH levels to approximately 8.
- Disperbyk 154 or a similar alternative is advised at an aqueous dispersant.
- The use of a non-ionic surfactant helps stabilise AX1 EF within your system such as Triton X-100/1000 or alternative.

If you have any questions, please contact our technical team at technical@hexigone.com

Co-blend formulation:

Ingredient	Supplier	Function	wt %
Part A			
Millbase			
EpiRez 3253	Westlake	Epoxy resin	21.3
Solsperse W150	Lubrizol	Pigment dispersant	1.1
DIW	Lab	Solvent	4.1
PM	Various	Solvent	3.0
EGBE	Various	Solvent	1.6
Byk 1711	Byk	Antifoam	0.2
Ti-Pure R960	Chemours	White pigment	7.8
Bayferrox 318M	Lanxess	Black pigment	0.4
ES 10 Wollastocoat	Imerys	Filler	8.2
Blanc Fixe Micro	Venator	Filler	5.5
Plastorit 10	Imerys	Filler	2.9
AX-1	Hexigone	Corrosion inhibitor	2.0
K-White ZF150W	Tayca	Corrosion inhibitor	2.0
<i>Mill for ~15 mins using high shear disperser at tip speed of 18 m s⁻¹ to Hegman 5-6</i>			
Letdown			
EpiRez 3253	Westlake	Epoxy resin	10.7
PPh	Various	Coalescing solvent	0.8
Coatosil 1770 silane	Momentiv e	Surface adhesion/wetting additive	0.7
DIW	Lab	Solvent	13.9



Byk 3455	Byk	Wetting aid	0.2
<i>Mix at low shear using any available/appropriate method</i>			
Total			86.6
Part B			
Epikure 8545	Westlake	Curing resin	9.4
DIW	Lab	Solvent	4.1
Nubirox FR11	Ferro	Flash rust inhibitor	1.6
<i>Mix at low shear using any available/appropriate method</i>			
Total			14.1
Formulation parameters (calculated)			
Density (calculated)	1.28 g cm ⁻³	PVC (calculated)	31 vol%
NV content (calculated)	52 wt%	Volume solids content (calculated)	38 vol%
Active concentration (calculated)	4.0 wt%	VOC (calculated)	68 g L ⁻¹
Viscosity (mixed, low shear)	2003 mPa.s	Viscosity (mixed, high shear)	235 mPa.s
Induction time	30 mins	Cure schedule	Room temperature 7 days
Epoxy : Amine/Amide NH Stoichiometry		1 (epoxy)	0.9 (NH)

Panel 1: waterborne epoxy primer with PU topcoat
Co-blend 2% AX1 & 2% ATP - 1440 hours ASTM B117 salt spray



Topcoated >>> Stripped with solvent



Complete replacement formulation:

Please contact the team for formulation advice on this AX1 incorporation approach