NACORR® CORROSION INHIBITORS
FORMULATION CI-113 (WR-14)
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WATER REDUCIBLE ALKYD MODIFIED ACRYLIC NACORR® SYNERGY with HALOX® SW-111

This formulation demonstrates the synergistic effect of using NACORR corrosion inhibitors with strontium phosphosilicate. Improved corrosion resistance is observed, compared to a control or an anti-corrosive pigment alone.

MATERIAL	DESCRIPTION	WEIGHT %
GRIND		
DURAMAC® WR 7495[1]	Water reducible alkyd	3.8
2-butoxyethanol	Cosolvent	2.8
Talc	Extender pigment	9.2
RAVEN® Black 16[2]	Carbon black pigment	0.7
HALOX SW-111[3]	Anti-corrosive pigment	2.4
NACORR 1151 or 1651	Corrosion inhibitor	0.8
LETDOWN (Add gradually while on mill at low rpm)		
Ammonia Hydroxide	Neutralizing amine	0.3
Cobalt HYDROCURE II® [4]	Drier	0.1
Manganese HYDROCURE II[4]	Drier	0.1
AQUAMAC® 715[1]	Styrene acrylic resin	64.3
Water		15.5
	TOTAL	100.0

PAINT PROPERTIES	
Resin Solids, % by weight	32
Pigment/binder ratio	0.4
Cure schedule	Ambient air dry for 7 days
Dry film thickness, microns, (mils)	20 – 25 (0.8-1.0)
Substrate	Iron phosphated steel

TEST RESULTS				
	Control	**HALOX® SW-111**	**Halox SW-111 +NACORR® 1151**	**Halox SW-111 + NACORR 1651**
Pencil hardness	2B-B	2B-B	2B-B	2B-B
Hardness, Tukon, KHN_{25}	1.2	2.2	2.2	3.0
Crosshatch adhesion, %	100	100	100	100
Salt fog exposure				
100 hours	Lt.– Med. rust	Very light rust	No rust	No rust
300 hours	Very dense rust	Very dense rust	Medium rust	Medium rust

TEST METHODS	
Adhesion, % retained	ASTM D3359
Pencil hardness	ASTM D3363
Hardness, Tukon KHN_{25}	ASTM D1474
Creep evaluation – millimeters from scribe	ASTM D1654
Salt fog exposure – 5% sodium chloride fog, 100°F	ASTM B117-90

SUPPLIER REFERENCES

1.) Hexion Specialty Chemicals – Fatty acid blend, 70 % solids, in sec-butyl alcohol and ethylene glycol monobutyl ether; acid value=33-38. 50% solids latex, pH=8.5, Tg=22ºC, Min. film forming temp.=47ºC

2.) Columbian Chemicals Company 4.) OM Group

3.) Halox Pigments

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