

# Eastman Solus™ 2100 performance additive

## Weathering update — 31-month exposure

Eastman Solus™ 2100 performance additive was tested after 31 months of weathering durability exposure in Florida. Derived from natural and renewable cellulose material, Solus 2100 is designed for today's high-solids topcoat systems, featuring improved productivity from reduced dry-to-touch times and extended polishing window while maintaining the excellent sag behavior for which Eastman cellulose esters are known.

Two generic topcoat formulations, found in Table 1, were prepared where Solus 2100 was substituted for 10 wt% of the polyol resin. In the generic formulations containing Solus 2100, formulation 1 contains a blend of acrylic resins, whereas formulation #2 contains only one of the polyol resins. The coatings were applied over e-coated, cold-roll steel panels coated with a commercially available sealer and base coat.

**Table 1. Generic test formulations**

Material	Supplier	Eastman Solus 2100 Formulation 1, wt% in grams	Eastman Solus 2100 Formulation 2, wt% in grams
Part A			
Setalux® 1903 BA75	Nuplex Resins	16.2	54.0
Macrynal® 515/70 BAC	Allnex	40.5	—
Eastman Solus™ 2100 performance additive (50% in solvent blend)	Eastman	9.0	9.0
Irganox® 1010 (10% solids)	BASF	1.0	1.0
DBTDL (10% solids)	—	0.5	0.5
Tinuvin® 1130 (10% solids)	BASF	4.5	4.5
Tinuvin® 123 (10% solids)	BASF	6.8	6.8
BYK-331	BYK Chemie	1.0	1.0
Solvent blend <sup>a</sup>	—	—	0.9
Part B			
Tolonate™ HDT-LV (100%)	Vencorex	22.3	22.3
<b>Total</b>		<b>101.8</b>	<b>100.0</b>

Reduce above formulation to 18 sec on No. 4 Ford cup using 8.8 g of the solvent blend.

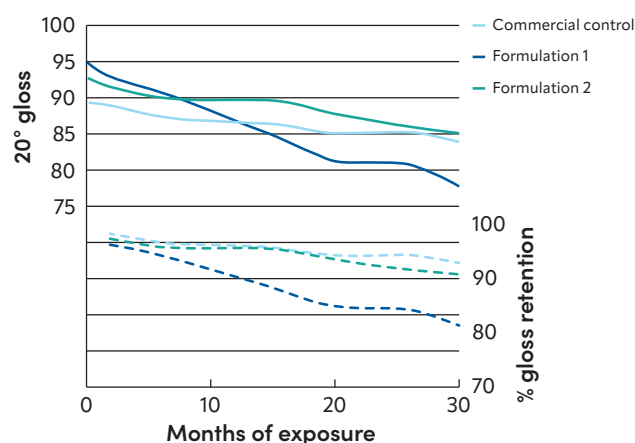
% solids of both formulations before thinning = 70

% solids of both formulations after thinning = 64

<sup>a</sup>Solvent blend = n-butyl acetate 45, MAK 35, MEK 15

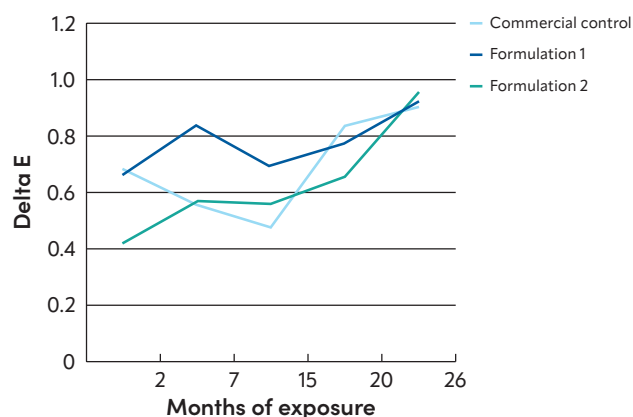
Figure 1 depicts the 20° gloss and % gloss retention after 31 months of Florida exposure. The performance of formulation 2 is very similar to that of a readily available commercial clear coat.

**Figure 1.**



The changes in Delta E over the first 26 months were reasonably equivalent as shown in Figure 2.

**Figure 2.**



The Solus family of performance additives provides the same UV resistance commonly found in traditional Eastman cellulose ester products.

As the world's leading supplier of specialty cellulose esters for over 85 years, Eastman has a long history of reliably supplying customers with consistently high-quality products manufactured using advanced processes and controls. With a diverse portfolio of Eastman Solus™ performance additives, for a variety of applications along with years of formulating experience, our technical experts can provide guidance to help customers select the best cellulose ester or blend to achieve the specific performance desired for their unique application. Over the years, we've introduced innovative products that help meet customer needs and market demands. Eastman works with regulatory agencies and industry associations on behalf of our customers to advocate for policies that allow industries to thrive, enabling sustainable innovation. At Eastman, our goal is to enhance the quality of life in a material way.

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