



Coatings & Colorants

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TECHNICAL SERVICE REPORT

TSR #101-2551-2501-12
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INDUSTRIAL POLYMERS Houston, TX

BACKGROUND:

Customer has asked Degussa to perform accelerated fade (color fastness) and gloss retention on their RL-200 and SL-1000 green coatings. They have submitted the following four coatings applied on steel panels:

- RL-200 with blue pigment
- RL-200 without blue pigment
- SL-1000 with blue pigment
- SL-1000 without blue pigment

OBJECTIVE:

Expose the above mentioned coatings to Xenon-Arc light at 50% relative humidity for a total of 2000 hours. Once complete, return exposed panels to customer for their inspection.

RESULTS:

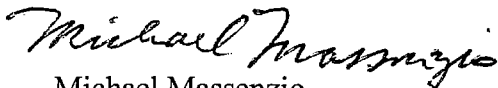
After 2000 exposure hours, the RL-200 coatings faded considerably. Both became much lighter, shifted yellow in color and lost all their original 60° angle gloss. The SL-1000 coatings, over the same time period changed very little in color and retained almost all their angular gloss. The RL-200 and SL-1000 coatings without blue pigment present performed slightly better than with. Below are the 60° angle gloss readings taken after 1000 and 2000 exposure hours. Complete CIELAB color difference reports (exposed vs. unexposed) are attached.

	<u>Unexposed (Std.)</u>	<u>60° Angle Gloss</u>	
		<u>Exposed Hours</u>	
		<u>1000</u>	<u>2000</u>
RL-200 w/blue	83	13	2
RL-200 wo/blue	84	6	2
SL-1000 w/blue	15	15	12
SL-1000 wo/blue	19	19	17

The SL-1000 green coatings showed a much better resistance to fade under Xenon-Arc light than did the RL-200 green coatings.

DETAILS:

Cut off one third of each submitted coated panel. Measured the absolute CIELAB color of each and stored in color-meter. Placed the remainder of each panel in an Atlas Ci 4000 Xenon-Arc Fade/Weather-Ometer for a total of 2000 hours at 50% relative humidity. Exposed versus unexposed (internal standard) measurements were taken at 500 hour intervals.



Michael Massenzio
Customer Support