

USER GUIDE

IGL COATINGS™ INDUSTRIAL SOLUTIONS AEGIS CATALYST

Material no.

Specification

Version

154383

1.0

Revision date

14.02.2024



IGL COATINGS INDUSTRIAL SOLUTIONS AEGIS

TO CATALYZE OR NOT TO CATALYZE, THAT IS THE QUESTION

Equipment

Thermometer, hygrometer, stopwatch



Catalyst - Basics

1. Catalysts are an essential component in many paints and coatings formulations. In general, a catalyst “makes” it easier for a reaction to occur, accelerating the rate of reaction.
2. Reducing the drying time and decreasing the curing temperature (for oven-baked systems) are possible ways to optimize productivity and costs. In some cases, painting is only practical due to the presence of catalysts.
3. Since catalysts play a crucial role in the polymerization process, it will not only affect the reaction rate. Many other properties such as adhesion, gloss, chemical resistance, and pot life are also affected.
4. Ecoclear Aegis, in its default form, already contains some amount of catalyst and has been optimized to give the best long-term protection.
5. Adding excess catalysts may result in delamination, cracking, flaking, loss of gloss, loss of chemical resistance, and reduced performance lifetime.
6. In addition, the polymerization process is also affected by environmental conditions such as humidity and temperature.
7. Adding excess catalysts in combination with certain environmental conditions may result in cost overruns, delamination, cracking, flaking, loss of gloss, loss of chemical resistance, and reduced performance lifetime.
8. Only add the additional catalyst when truly necessary and with purpose. Document all parameters such as temperature, humidity, weather, location, etc for future reference.
9. Curing time and impact energy for different Aegis systems and different application condition:

System	Dry-hard	Dry-through	Impact energy (J)
Aegis Default, 25°C	4 hours	6 hours	3.61
Aegis Default, 15°C	16 hours	>24 hours	NA
Aegis + 5% Catalyst, 25°C	2 hours	3 hours	2.82
Aegis + 5% Catalyst, 15°C	3 hours	6 hours	NA

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RISK DIAGRAM

		Temperature midpoint				
		5°C	15°C	25°C	35°C	45°C
Humidity	<50 RH	5% catalyst. Need to mitigate condensation etc	5% catalyst	3 to 5% catalyst	3 to 5% catalyst	Risky. Max 3% catalyst.
	50-60 RH	5% catalyst. Need to mitigate condensation etc	5% catalyst	3 to 5% catalyst	Risky. Max 3% catalyst.	Risky. Max 3% catalyst.
	>60 RH	5% catalyst. Need to mitigate condensation etc	3 to 5% catalyst	Risky. Max 3% catalyst.	Risky. Max 3% catalyst.	Risky. Max 3% catalyst.