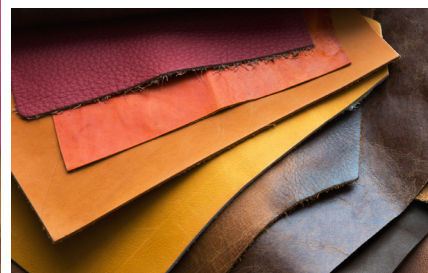


RADCURE



allnex, your partner for Excimer curing applications

Enhancing the natural beauty of substrates
Opening the door to high performance ultra-low gloss finishes



www.allnex.com

DRIVERS

Ecological awareness, lifestyle changes and curb appeal are driving the switch to **surface finishes that preserve, but also emulate the beauty of nature** in both naturally-occurring and artificial substrates.

Coatings can enhance substrates with **performance attributes** like soft touch, deep matt, anti-fingerprint or scratch resistance, on top of imparting **aesthetic features**.

For these reasons, a coating's finish plays an integral part in the commercial value of the final product.



The allnex Excimer curing line
(Drogenbos, Belgium)



Those drivers are responsible for the increasing interest in **high performance ultra-low gloss finishes**, which have historically been challenging to achieve. The **Excimer curing technology** is addressing this very need, and led allnex to decide to invest in such an equipment in order to better assist its customers in the development of their solutions.

PROCESS & BENEFITS

- 1 The liquid UV coating is applied by **roller, spray or curtain coater**.
- 2 The coating is irradiated with a 172 nm **Excimer light**.
- 3 A **thin surface layer** is cured, shrinks and forms a **micro-folded structure**, creating a dull/matt effect due to light refraction.
- 4 The **deeper layers** still need to be cured with a **UV/EB light**, leading to a fully cured low gloss surface.

CONVENTIONAL (NON-UV) MATTING PROCESS



Wet coating (SB/WB)



Cured coating

(Large volume reduction due to solvent or water evaporation)



MATting USING EXCIMER CURING



Wet coating (100% UV)



Cured coating



Main performance benefits of Excimer curing

- » Exceptionally high chemical and mechanical resistance
- » Ability to achieve ultra matt levels (~2 GU @60°C)
- » Excellent scratch, polishing and abrasion resistance, with improved stain resistance
- » No need for matting agents (silica-free formulations)
- » Ability to achieve soft touch effect and anti-fingerprint properties

SPF & PERFORMANCE COMPARISON

Starting point formulation (SPF) - For Excimer curing applications

	pbw
EBECRYL® 266 (Tin-free EBECRYL 265)	40
EBECRYL® 5129	10-20
Monomers	40-50
Wax	2
Processing additives	1
Photoinitiator	4

UV CURE:

- » Pre-gel: 15m/min 40W/cm Ga
- » **Excimer cure:** 20m/min at 100% output, inert medium
- » Direct UVC cure: 20m/min at 60% output, inert medium

REFERENCE UV CURE:

- » 10m/min 120W/cm Ga + Hg cure

Performance benefits

	Standard matt UV cure	Excimer-treated surface
Overall domestic stain resistance	4/5	5/5
Marring resistance	Good (4/5)	Excellent (5/5)
Gloss 60-85° angel	10-30	2-3
Martindale polishing resistance	Fair (3/5)	Good (4/5)
Iodine stain	2-3/5	3-4/5

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For general queries, contact
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Still not convinced? Do you need technical support?
Our experienced technical team is at your service!



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