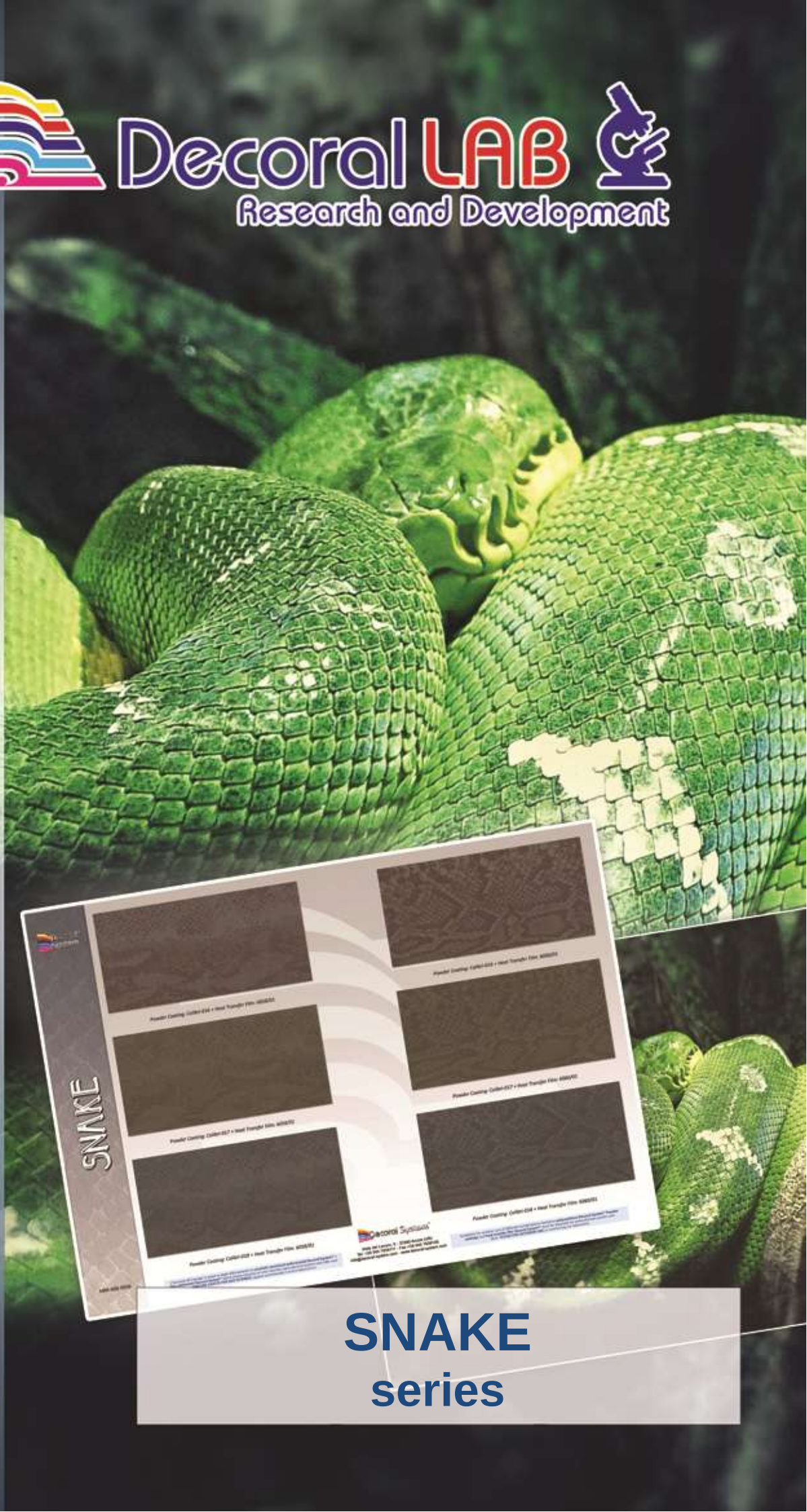
Accelerated Weathering Test

Decoral LAB
Research and Development



SNAKE
series

MRK-010-0566

TEST DI INVECCHIAMENTO ACCELERATO:

Invecchiamento accelerato

Tutti i campioni vengono sottoposti all'irraggiamento di lampade allo xenon ed a cicli umido/secco mediante speciali apparecchiature (Q-Sun, SolarBox).Tali apparecchiature vengono utilizzate in conformità agli standard internazionali imposti dalla norma ISO 11341 rispettando le seguenti impostazioni:

- intensità luminosa, 550±20W/m^2 (290-800 nm)
- temperatura del pannello nero, 65 ± 5°C
- ciclo umido 18 minuti
- ciclo secco 102 minuti

Alla fine dei test, che normalmente hanno una durata minima di 1000 ore, viene valutata la variazione di brillantezza (EN ISO 2813, con angolo di incidenza 60°) ed il cambiamento di colore ΔE (metodo CIELAB ISO 7724/3) rispetto ai valori di partenza. Questo permette di stabilire, in maniera parametrizzata, l'invecchiamento delle varie superfici testate. La corretta conduzione dei test viene verificata attraverso l'utilizzo di campioni in bianco ad invecchiamento noto.

Figure: apparecchiature per l'invecchiamento accelerato.
Pictures: equipment for the Accelerated Weathering Test

Accelerated Weathering Test

All samples are exposed to radiation of Xenon lamps and to wet/dry cycles by special equipment (Q-Sun, SOLARBOX). Such equipment is used in accordance with international standards imposed by norm ISO 11341, i.e. complying with the following settings:

- light intensity, 550 ± 20 W / m^2 (290-800 nm)
- black panel temperature, 65 ± 5 ° C
- wet cycle 18 minutes
- dry cycle 102 minutes.

At the end of the test, whose minimum duration is 1000 hours, Residual Gloss (EN ISO 2813, with an angle of incidence 60°) and Colour Variation ΔE (CIELAB method - ISO 7724 / 3) are measured comparing pre-test values. In this way it is possible to evaluate the aging of surfaces using standard indexes. The accuracy of the test is verified through the use of samples in white, whose aging behaviour is know.

ID Test Report	PROD. VERNIC	COD. FILM	PROG. N°	IMMAGINI
TR-IA-136-2015	colibrì-016	6058/01	136	
TR-IA-137-2015	colibrì-016	6060/01	137	
TR-IA-138-2015	colibrì-017	6058/01	138	
TR-IA-139-2015	colibrì-017	6060/01	139	
TR-IA-140-2015	colibrì-018	6058/01	140	
TR-IA-141-2015	colibrì-018	6060/01	141	

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

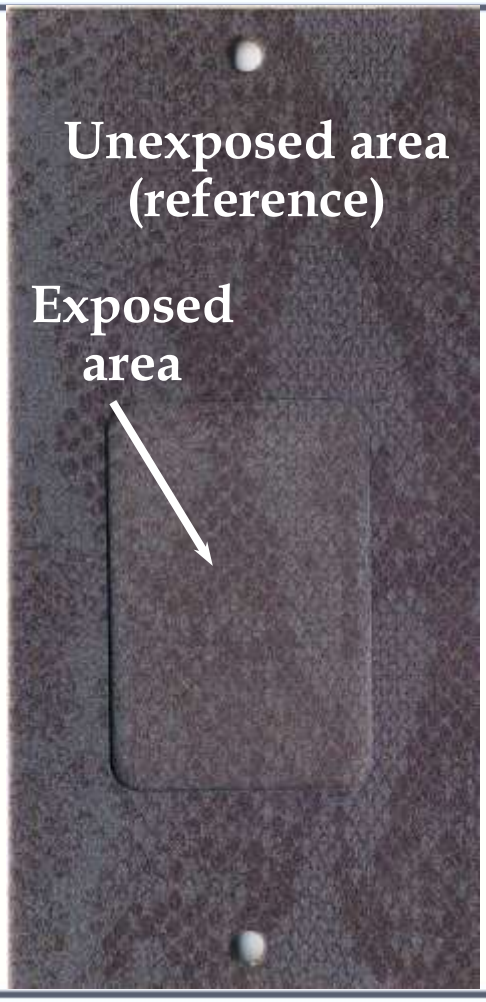
136

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h



LAB. ID NUMBER: 38135
POWDER COATING: Colibrì-016
HEAT TRANSFER FILM: 6058/01
Grey Scale: **4**
residual gloss: **93%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

137

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h

LAB. ID NUMBER: 38136
POWDER COATING: Colibrì-016
HEAT TRANSFER FILM: 6060/01
Grey Scale: **4**
residual gloss: **82%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

138

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h

LAB. ID NUMBER: 38137
POWDER COATING: Colibrì-017
HEAT TRANSFER FILM: 6058/01
Grey Scale: **5/4**
residual gloss: **83%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

139

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h

LAB. ID NUMBER: 38138
POWDER COATING: Colibrì-017
HEAT TRANSFER FILM: 6060/01
Grey Scale: **5/4**
residual gloss: **81%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

140

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h

LAB. ID NUMBER: 38139
POWDER COATING: Colibrì-018
HEAT TRANSFER FILM: 6058/01
Grey Scale: **5/4**
residual gloss: **81%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

141

Laboratory Test

No. 450

Device: QSun 3000

Total duration: 1045h

LAB. ID NUMBER: 38140
POWDER COATING: Colibrì-018
HEAT TRANSFER FILM: 6060/01
Grey Scale: **4**
residual gloss: **81%**

Technical Remarks

Excellent residual gloss and low colour variation, after 1045 hours.

Technical Opinion:

Suitable for OUTDOOR USE

Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment see further analysis on natural exposure in Florida.