Accelerated Weathering Test

Decoral LAB
Research and Development

SUBLIWALLSKY
series

MRK-010-0340

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.

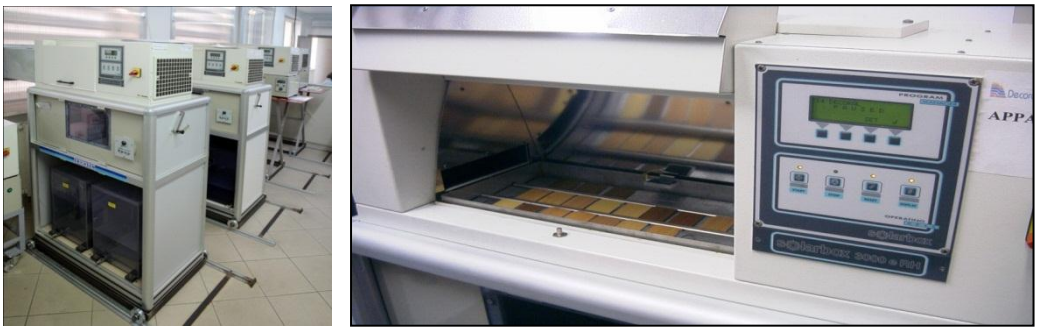


Figure: apparecchiature per l'invecchiamento accelerato.
Pictures: equipment for the Accelerated Weathering Test

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.

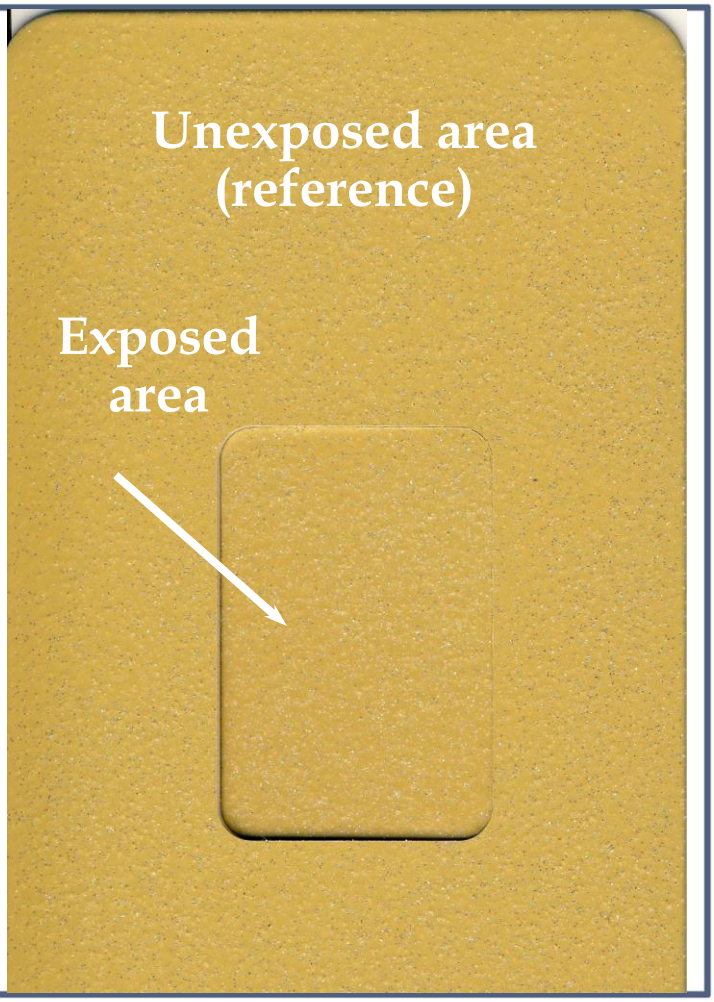
ID Test Report	PROD. VERNIC	COD. FILM	PROG. N°	IMMAGINI
TR-IA-111-2013	subliwallsky-716	1301/03	111	
TR-IA-112-2013	subliwallsky-716	2103/01	112	
TR-IA-113-2013	subliwallsky-733	1403/02	113	
TR-IA-114-2013	subliwallsky-733	2601/01	114	
TR-IA-115-2013	subliwallsky-739	2504/01	115	
TR-IA-116-2013	subliwallsky-739	2805/03	116	

Test Report: Accelerated Weathering Test

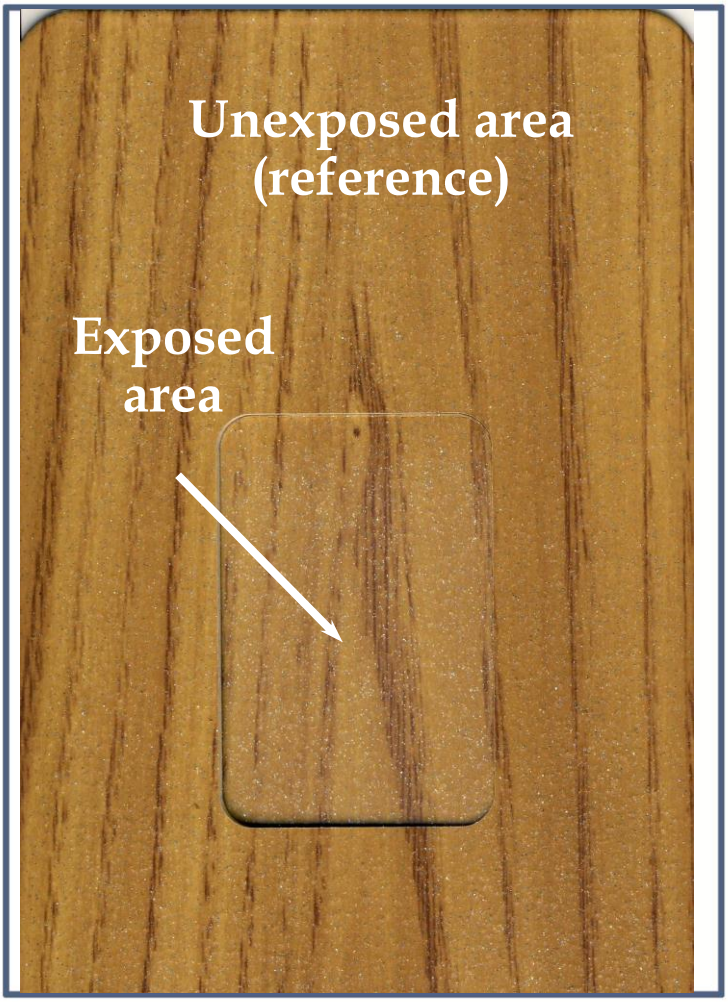
Decoral LAB Research and Development

111

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h



LAB. ID NUMBER: 29601
POWDER COATING: Subliwallsky-716
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **91%**



LAB. ID NUMBER: 29602
POWDER COATING: Subliwallsky-716
HEAT TRANSFER FILM: 1301/03
Grey scale: **4**
residual gloss: **85%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 hours.

Technical Opinion:

Suitable for OUTDOOR USE

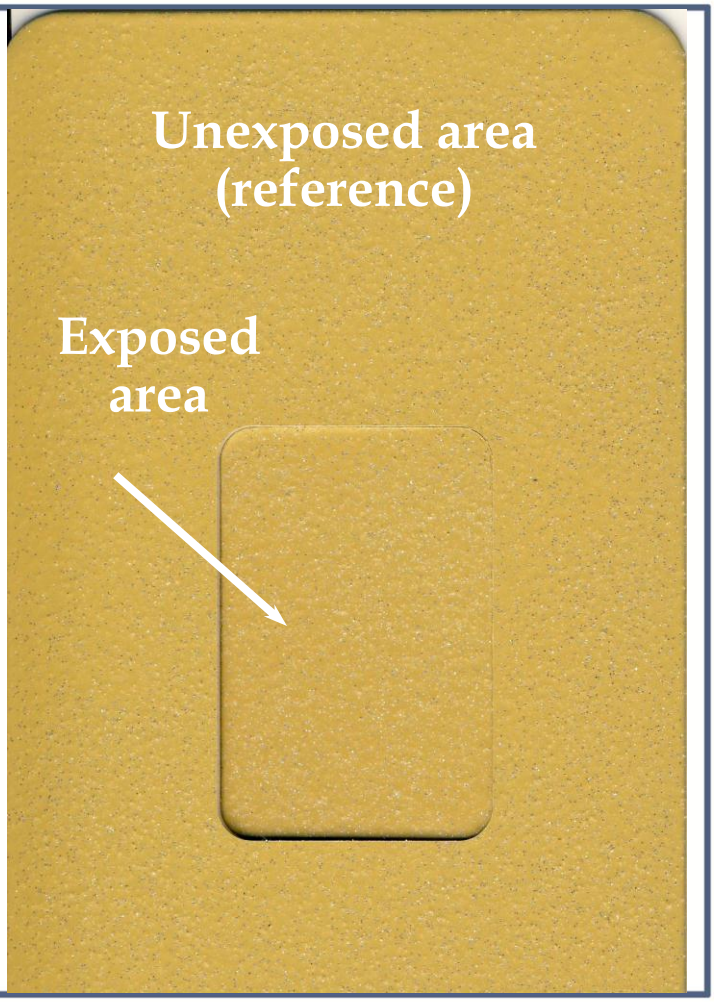
Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment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

Test Report: Accelerated Weathering Test

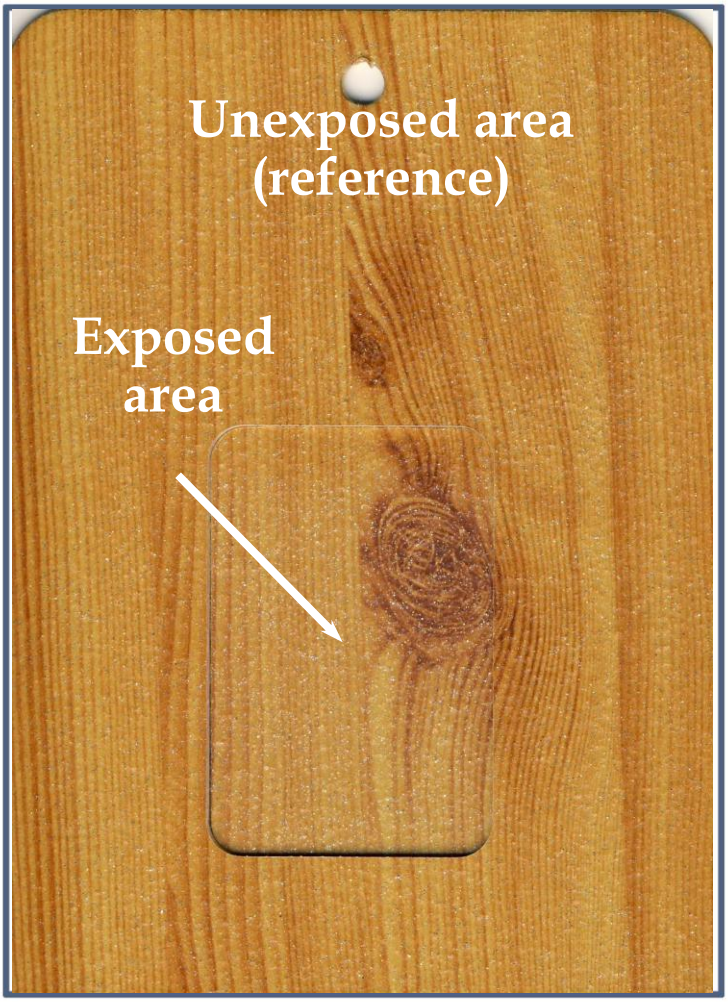
Decoral LAB Research and Development

112

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h



LAB. ID NUMBER: 29601
POWDER COATING: Subliwallsky-716
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **91%**



LAB. ID NUMBER: 29605
POWDER COATING: Subliwallsky-716
HEAT TRANSFER FILM: 2103/01
Grey scale: **4**
residual gloss: **95%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 hours.

Technical Opinion:

Suitable for OUTDOOR USE

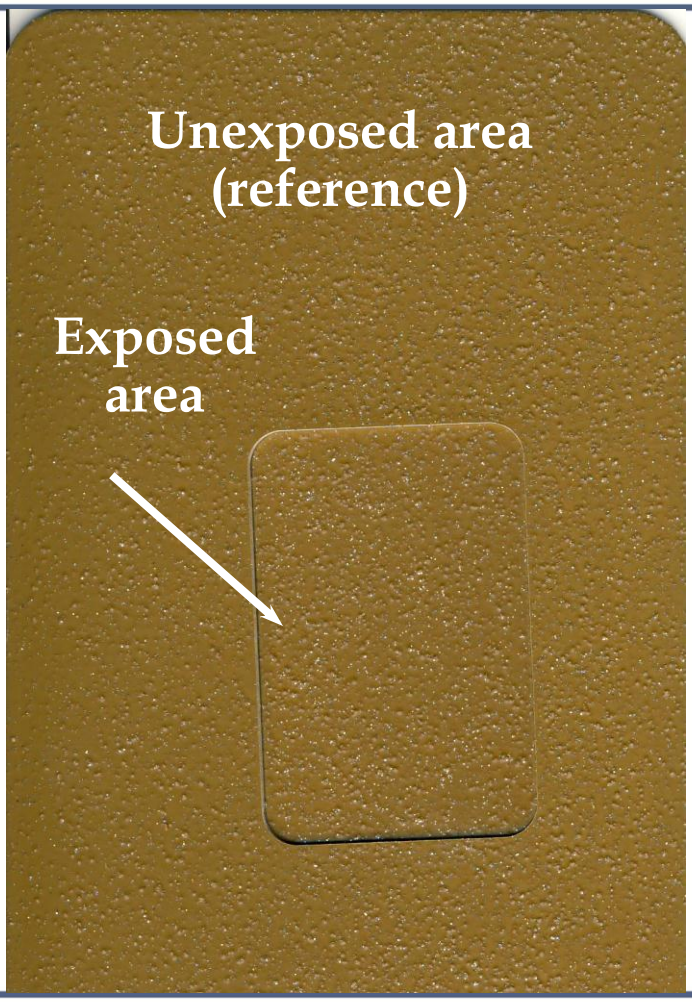
Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment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

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

113

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h



LAB. ID NUMBER: 29607
POWDER COATING: Subliwallsky-733
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **93%**

LAB. ID NUMBER: 29609
POWDER COATING: Subliwallsky-733
HEAT TRANSFER FILM: 1403/02
Grey scale: **4/5**
residual gloss: **91%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 hours.

Technical Opinion:

Suitable for OUTDOOR USE

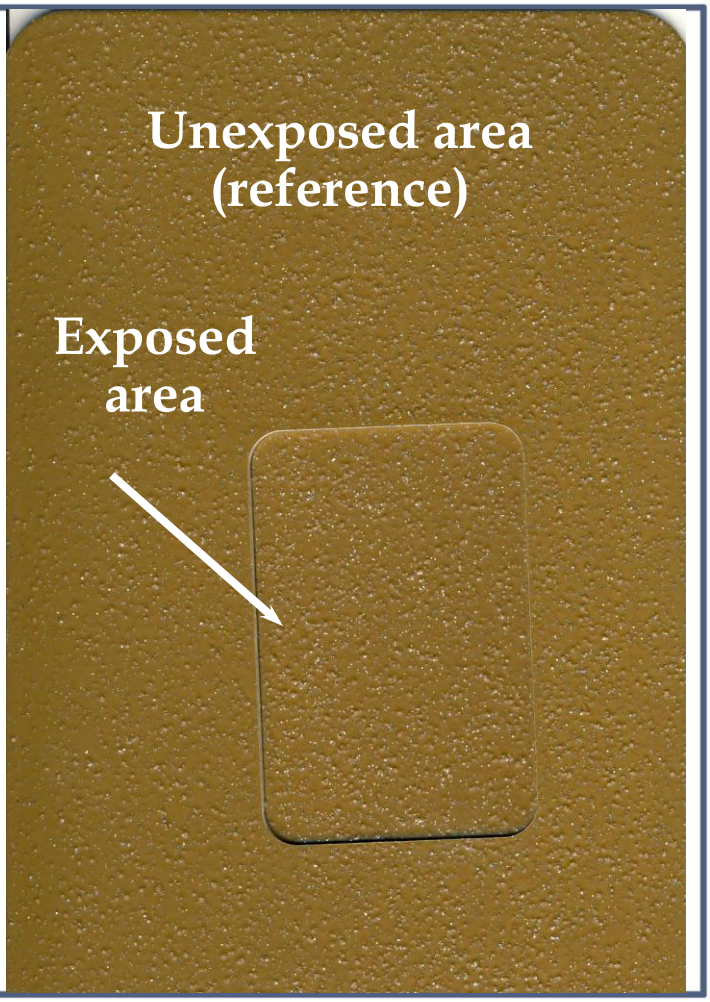
Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment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

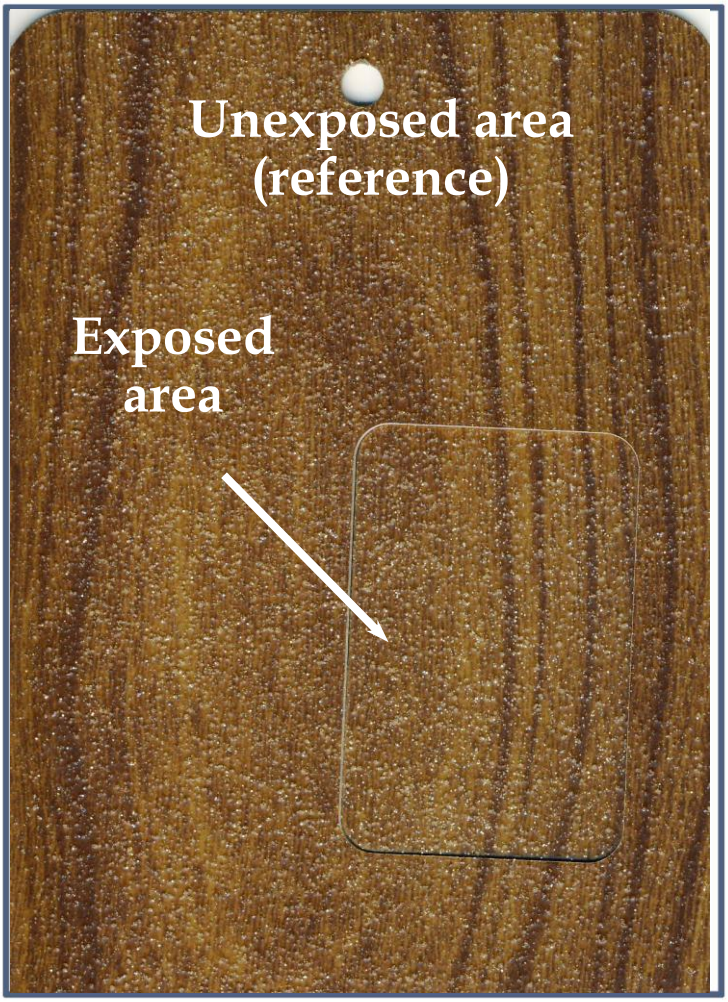
Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

114

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h





LAB. ID NUMBER: 29607
POWDER COATING: Subliwallsky-733
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **93%**

LAB. ID NUMBER: 29612
POWDER COATING: Subliwallsky-733
HEAT TRANSFER FILM: 2601/01
Grey scale: **4/5**
residual gloss: **94%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 hours.

Technical Opinion:

Suitable for OUTDOOR USE

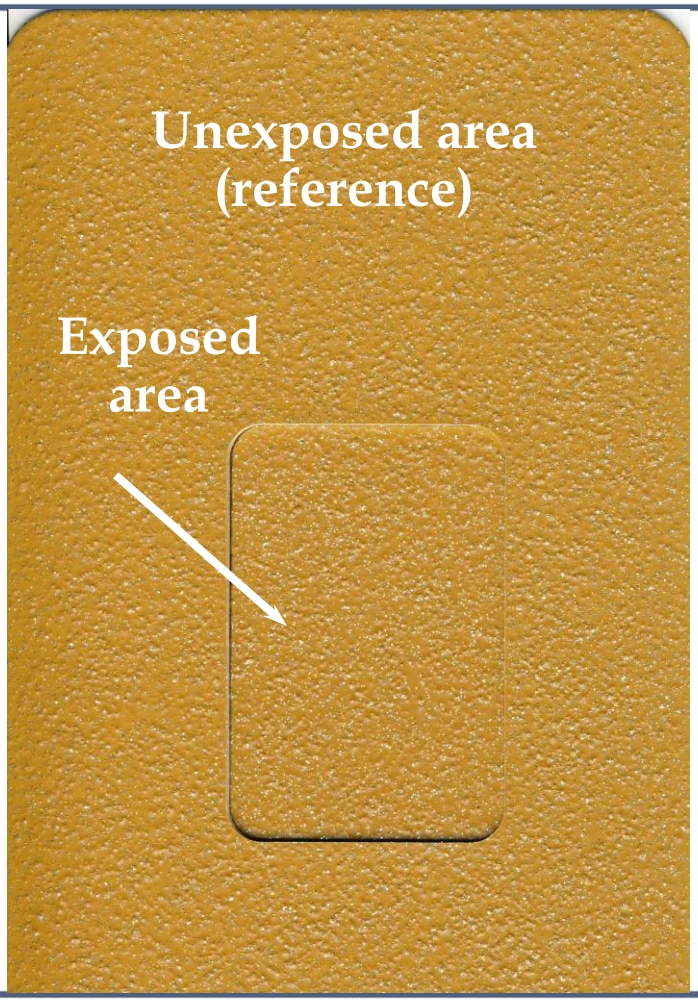
Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment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

Test Report: Accelerated Weathering Test

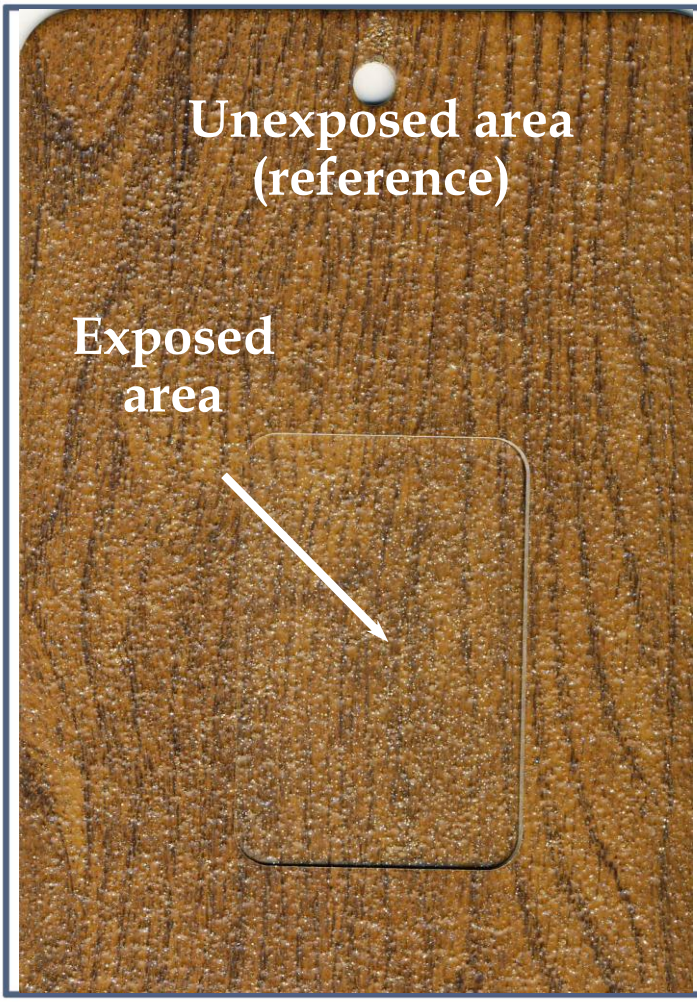
Decoral LAB Research and Development

115

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h



LAB. ID NUMBER: 29613
POWDER COATING: Subliwallsky-739
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **93%**



LAB. ID NUMBER: 29617
POWDER COATING: Subliwallsky-739
HEAT TRANSFER FILM: 2504/01
Grey scale: **4/5**
residual gloss: **92%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 hours.

Technical Opinion:

Suitable for OUTDOOR USE

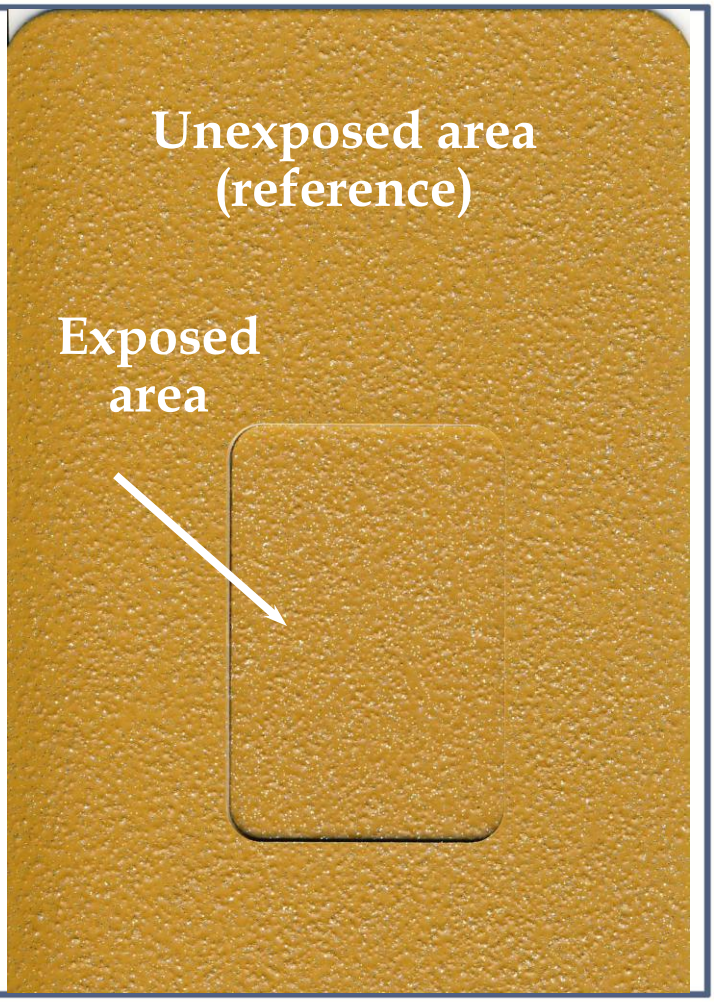
Test was carried on samples prepared according to technical specifications supplied by raw materials manufacturers. However, the resistance against accelerated weathering test is only one of the conditions necessary for the evaluation of the resistance of the finished product. For a final assessment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

Test Report: Accelerated Weathering Test

Decoral LAB Research and Development

116

Laboratory Test	No. 369	Device: QSun 3000	Total duration: 886h



LAB. ID NUMBER: 29613
POWDER COATING: Subliwallsky-739
HEAT TRANSFER FILM: --
Grey scale: **5**
residual gloss: **93%**

LAB. ID NUMBER: 29618
POWDER COATING: Subliwallsky-739
HEAT TRANSFER FILM: 2805/03
Grey scale: **4/5**
residual gloss: **95%**

Technical Remarks

Excellent residual gloss and very low colour variation, after 886 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.