

TEST REPORT

Test Report No:	211341
Customer:	Tarkett GDL S. A. Z. I. Eselborn-Lentzweiler An der Feckel 11 9779 Lentzweiler
Offer No:	212100
Contract No/Date:	PO: 4200208612 / 2021-12-06
Testing:	Measurement of radioactivity-Test method to assess the ease of decontamination of surface materials
Subject of Testing:	PVC-based wallcovering
Origin of Samples:	provided by customer
Entry Date of Samples:	06.12.2021
Start of Testing:	06.12.2021
End of Testing:	10.12.2021
Archiving of Samples:	four weeks
Subcontracts:	not applicable
Number of Pages:	6

An overview of all test methods used with issue dates and status of accreditation can be found at the end of this report.

1 Subject of testing

The samples listed in Table 1 were provided by the customer for testing.

Table 1: Designation of the samples

iLF's sample designation	Customer's sample designation
211341-P1	ProtectWALL 1.5 CR

2 Test methods and results

2.1 Test method 1

The following figures in table 2 show the sample "ProtectWALL 1.5 CR" as delivered (initial state) before testing.

Table 2: Sample 211341-P1, initial state of 3 coated testsheets

		
Testsheet: 211341-P1-1	Testplate: 211341-P1-2	Testplate: 211341-P1-3

2.1 Test method to assess the ease of decontamination of surface materials in acc. with ISO 8690:2020

Contamination solution: ^{60}Co -solution and ^{137}Cs -solution
 Carrier concentration: $1 \cdot 10^{-5} \text{ mol} \cdot \text{l}^{-1}$, pH-value: 4.2
 Volume of contamination solution: 1 ml
 Duration of the contamination: 120 min

decontamination agent: demineralized water, conductivity 1.5 $\mu\text{S/cm}$
Drying: at least 1h @ $(40 \pm 5)^\circ\text{C}$
Equipment: - α , β , γ - radiation detector FHZ 731, conforms a Geiger-Mueller-detector filled with neon and halogen,
- device FHT 1100, company Thermo Eberline ESM
Calculations: - mean residual pulse rate = \bar{I}_r
- standardized mean residual pulse rate = $\overline{I_{r,n}}$
- final residual pulse rate = $\overline{I_{r,n}}$, for ^{60}Co and ^{137}Cs
- $^{60}\text{Co}/^{137}\text{Cs}$ final residual pulse
- Assessment of ease of decontamination acc. Table 1 in ISO 8690

The following table 2 contains the criteria for assessment.

Table 2: Assessment of the ease of decontamination

Co/Cs-Final residual pulse rate (FRP) [pulses/min]	Ease of decontamination
FRP < 3.000	Excellent
$3.000 \leq \text{FRP} < 15.000$	Good
$15.000 \leq \text{FRP} < 60.000$	Fair
FRP < 60.000	Poor

Table 3 shows the results of the decontamination test for the sample “ProtectWALL 1.5 CR”, 211341-P1, including the assessment of the ease of decontamination, the standardized mean residual pulse rate and the illustrations of the coating after the completion of the test.

Table 3:
Results of the decontamination tests for sample “ProtectWALL 1.5 CR”, 211341-P1



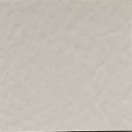


Sample Name Customer				standardized mean residual pulse rate $\overline{I_{r,n}}$	Ease of decontamination
211341-P1-4				$(^{60}\text{Co} - \overline{I_{r,n}}) = 27\,142$	Fair
211341-P1-5				$(^{60}\text{Co} - \overline{I_{r,n}}) = 26\,432$	Fair
211341-P1-6				$(^{60}\text{Co} - \overline{I_{r,n}}) = 27\,483$	Fair
211341-P1-7				$(^{60}\text{Co} - \overline{I_{r,n}}) = 26\,927$	Fair
211341-P1-8				$(^{60}\text{Co} - \overline{I_{r,n}}) = 28\,960$	Fair
FINAL RESIDUAL PULSE RATE $^{60}\text{Co} - \overline{I_{r,n}}$				27 389	Fair

Table 3 (update):

Results of the decontamination tests for sample “ProtectWALL 1.5 CR”, 211341-P1

Sample Name Customer				<u>standardized mean residual</u> pulse rate $\overline{I_{r,n}}$	Ease of decon- tamination
211341-P1-9				$(^{137}\text{Cs} - \overline{I_{r,n}}) = 2\,232$	Excellent
211341-P1-10				$(^{137}\text{Cs} - \overline{I_{r,n}}) = 1\,790$	Excellent
211341-P1-11				$(^{137}\text{Cs} - \overline{I_{r,n}}) = 1\,998$	Excellent
211341-P1-12				$(^{137}\text{Cs} - \overline{I_{r,n}}) = 2\,044$	Excellent
211341-P1-13				$(^{137}\text{Cs} - \overline{I_{r,n}}) = 2\,042$	Excellent
FINAL RESIDUAL PULSE RATE $^{137}\text{Cs} \overline{I_{r,n}}$				2 021	Excellent
FINAL RESIDUAL PULSE RATE $\frac{C_0}{C_s} \overline{I_{r,n}}$				14 705	GOOD

3 Assessment

The sample ProtectWALL 1.5 CR has the ease of decontamination: <GOOD>

4 Test methods used

Table 4: Overview of test methods used

Test method	Issue date	accredited	not within the scope of accreditation because of the updated issue
ISO 8690	2020	X	

Magdeburg, 09.12.2021
iLF Magdeburg GmbH



Dr. Ute Holzhausen
Head Material Analytics



Dipl.-Ing. (FH) Tobias Böttge
Person in Charge

Notes:

The test results only relate to the items tested. The publication of the results in extracts is subject to the approval of the iLF Magdeburg GmbH.