



Description of the sample (*) :

The sample subjected to testing consisted in a painting procedure applied to small sheets of asbestos cement.

Description of the trial specimens :

The trial specimens were prepared by the test commissioner by applying the sample product to a support composed of flat new sheets of asbestos cement, with dimensions 190 x 72 mm and thickness 6 mm.

The painting procedure was as follows:

- Application of two coats of sample product mixed in the following way:

5 litres of "ECOBIOS LED" acrylic fixative diluted in 14 litres of "SOLARIA UNIVERSAL" water-based paint.

Test procedures :

The test was carried out in accordance with the procedures envisaged by the "Technical specifications for the acceptance of paint products suitable for rendering articles in asbestos cement inert" (fifth version), compiled by this Institute, an extract from which is given below.



(*) according to declaration given by commissioner of test.



TECHNICAL SPECIFICATIONS FOR THE ACCEPTANCE OF PAINT PRODUCTS
SUITABLE FOR RENDERING ARTICLES IN ASBESTOS CEMENT INERT

A - Preliminary verification of characteristics of the paint:

- 1 - Determination of adhesion to support using Unichim method no. 810, with a uniform speed of traction force increase equivalent to 0,1 MPa/s;
- 2 - Determination of pulverization using Unichim method no. 175;
- 3 - Assessment of colour in accordance with UNI 8941 standard.

B - Accelerated ageing cycles simulating ambient conditions by aggravating them to extreme limits:

- 1 - Thermal cycles of -20 °C for 4 hours and +80 °C for 4 hours, for an overall period of 48 hours;
- 2 - Exposure to xenon lamp (Solar box) using Unichim method no. 651 (method B: 300 nm filter), alternated with cycles of flooding: 55 minutes of exposure and 5 minutes of flooding plus exposure for a total of 7 days;
- 3 - Thermal cycles of -20 °C for 4 hours and +80 °C for 4 hours, for an overall period of 48 hours;
- 4 - Exposure in UV-CON chamber to UVB-type radiation alternated with exposure to condensation: cycles of 8 hours of exposure at 60 °C and 4 hours of condensation at 40 °C for a total duration of 7 days;
- 5 - Thermal cycles of -20 °C for 4 hours and +80 °C for 4 hours, for an overall period of 48 hours;





C - Repeated verification of performance characteristics and comparison with initial data:

- 1 - Determination of adhesion to support using Unichim method no. 810;
- 2 - Determination of pulverization using Unichim method no. 175;
- 3 - Assessment of colour and calculation of colour difference in accordance with UNI 8941 standard;
- 4 - Microscopic examination to detect any penetration of asbestos fibres through painted surface.

Limits of acceptance :

The limits of acceptance envisaged by these specifications are as follows:

- 1 - Decrease of adherence to support not less than 20 % of initial value;
- 2 - Increase of pulverization not exceeding one degree of the reference standard;
- 3 - Colour difference $\Delta E_{\text{Cielab}} \leq 2$;
- 4 - No penetration of asbestos fibres through painted surface.



Test results :

	Before ageing cycles	After ageing cycles
Adhesion to support (MPa) Type of rupture*	1,05 100 % A	0,88 100 % A/B
Degree of pulverization	0	0
Variation of colour ΔE_{cielab}	/	1,52
Penetration of fibre	absent	absent

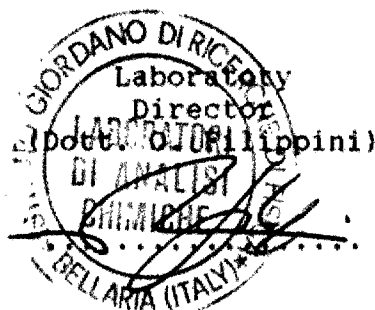
(*) According to Unichim standard no. 810, the types of rupture can be as follows:

- A = rupture of cohesion of support
- A/B = rupture of adhesion between support and first coat
- B = rupture of cohesion of first coat
- B/C = rupture of adhesion between first and second coats
- /Y = rupture of adherence between final coat and adhesive
- Y = rupture of cohesion of adhesive
- Y/Z = rupture of adhesion between adhesive and head

Conclusions :

After the ageing cycles, the painting procedure demonstrated good adhesion to the support, no tendency toward pulverization and a slight change of colour, in addition to the absence of fibre penetration.

The painting procedure in question can therefore be considered as being suitable for rendering asbestos cement articles inert according to the specifications compiled by this institute.



President or
Managing Director

Dott. Ing. Vincenzo Iommi