

TEST RESULTS for easy-on

BS 476: Part 7: 1997 Surface spread of flame:

BRE test report 212022 - RTF/1747. The results of this test show easy-on achieved Class 1 when tested on a non combustible board.

BS 476: Part 6: 1989:

Fire propagation: BRE test report 212104 - RTF/1761 When tested, easy-on achieved a fire propagation index, 1, of 5.2 made up of sub indices i1 of 2.6, i2 of 1.9 and i3 of 0.7.

LUL Standard 2-01001-002:

Transfire Services Limited: Fire testing, smoke emission and toxic fume emission of easy-on coating was tested in accordance with London Underground Limited - Engineering Standard 2-01001-002 'Fire Safety Performance of Materials'. The stringent requirements for use in station and below ground locations were met and exceeded.

Incidental Food contact:

In January 1995 the United States Department of Agriculture evaluated the coating and declared it chemically acceptable for application to structural surfaces or surfaces where there is a possibility of incidental contact with meat or poultry food product.

Powder coatings:

Fire Test results over Syntha Pulvin - considered to meet the most stringent emission requirements.

Water permeability:

33gms moisture / 24 hours / m². Testing conducted by SHU using an AC impedance test.

Graffiti Resistance:

Materials Research Institute - Centre for Corrosion Technology. easy-on was tested repeatedly with both aerosol paint and marker pen defacement. Each media was left on the surface for 24 hours before the cleaning operation. After each clean, the film thickness was measured and the results recorded. The same tests were repeated daily for both ink and paint. Results showed there was no effect of the cleaning operation on the integrity of the coating or film thickness measurements of the test panels. The result showed that the integrity of easy-on coating is not compromised by repeated cleaning operations.

RATP (Regie Autonome des Transports Parisiens):

The coating was classified in accordance with standard NF F 31-112 classifications M and F slipperiness, resistance to chemicals, ageing, UV etc.

Bacterial Resistance / Infection Control;

Seven major bacterial species were tested to establish the resistance of easy-on to common hospital acquired infections.(HAI's) Comparative testing was conducted on panels coated with either emulsion paint or acrylic paint as these finishes are commonly used on hospital walls and ceilings. The bacteria chosen were:- Bacillus cereus, Staphylococcus aureus - subs aureus, Escherichia coli, salmonella enterica - subs enterica and Listeria monocytogenes.

Preparation of Panels:

Three sets of sample panels were coated with vinyl matt emulsion, vinyl matt emulsion over-coated with easy-on coating, and with acrylic paint. All panels were cleaned thoroughly with 1000 ppm of Precept solution prior to addition of bacterial cultures

Addition of Bacteria:

Cultures of bacteria were incubated overnight at 37 °C and then diluted in culture media to achieve a bacterial concentration of 10⁷ cells ml⁻¹.

100 µl of bacterial cultures were then added to each panel and incubated at room temperature for 30 minutes.

Following incubation panels were cleaned twice with sterile tissue soaked in 1000 ppm Precept solution.

A general cleaning action was simulated with the panels being wiped vertically twice in each cleaning step.

Panels were then placed face down on nutrient agar plates for 30 minutes to allow transfer of bacteria to the agar surface.

Panels were then removed and the plates incubated at 37 °C overnight. Bacterial colonies were then counted.

The process was then repeated with the bacteria incubated on the panels for 3 days prior to cleaning.

Results:

Panels coated with easy-on and subsequently cleaned with Precept solution showed no survival of bacterial species after 30 minutes and after three days incubation.

After 30 minutes incubation followed by cleaning, E.coli, L. monocytogenes, Staph. aureus and B. cereus all exhibited survival on both the cleaned acrylic and the emulsion coated panels.

Salm. enterica, K. pneumoniae and Ps .aeruginosa only showed survival on acrylic coated surfaces. Results after 3 days incubation were identical, with the same survival patterns present.

Conclusions

All surfaces were submitted to a basic cleaning regime.

All bacteria were removed from surfaces coated with easy-on.

Surfaces coated with acrylic paint allowed survival of all seven bacterial species tested after cleaning

Surfaces coated with emulsion paint showed survival of Bacillus cereus, Staphylococcus aureus, Escherichia coli and Listeria monocytogenes.

NOTE:

Whilst some bacteria did not survive on the matt emulsion coated surfaces this may be due to the fact that when the emulsion surfaces were cleaned a minute layer of the paint unsurprisingly was also removed. This means that a section of the total surface was cleaned away with the bacteria and that everything was therefore removed.

Clearly as a result of this, normal emulsioned walls suffer damage through cleaning and will need redecoration on a regular basis.

OTHER TESTS

Graffiti resistance ASTM D 523

Salt Spray resistance: ASTM B 117 & ISO 7253

Elongation (Conical Mandrel): ASTM D 522

Drying Times: ASTM D 1640

Volume Solids: ASTM D 2697

Adhesion ASTM D 3359 & ASTM D 4541 & ISO 4624

Taber Abrasion: ASTM D 4060

Impact Resistance: ASTM D 2794

QUV exposure: ASTM G 53 (Accelerated weathering)

Chemical Resistance ASTM G 20 (24hr exposure)