

MORE FROM WOOD.



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EGGER LAMINATES AND WORKTOPS

PROFESSIONAL

CHEMICAL RESISTANCE AND ROBUST
PROPERTIES WITH ATTRACTIVE DESIGN



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Panel Boards

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EGGER LAMINATES AND WORKTOPS

In today's residential and commercial projects, it is important to find a product that is fit-for-purpose and meets the current standards. The detail contained in this data sheet is to help with the specification process, and being confident in using EGGER CPL decorative laminates and worktops. The results in this report have been prepared by Uniquet Pty Ltd, and the University of Queensland.

EGGER Laminates and Worktops are not affected by many solvents, alkalis, acids, and other chemicals. These products are an ideal surface material in laboratories, hospitals, schools, and factories where resistance and durability is required.

An EGGER Laminate manufactured post-formed top and EGGER Worktops with a 3 mm radius edge profile are perfect for these types of installations. The round formed edges are perfect, as edges and seams permit chemical penetration. EGGER is the ideal solution with a wide range of commercial interior applications.

EGGER laminate samples were supplied, and were exposed to a number of chemicals and the effects were tabled. There were four sets of tests conducted so that a real life results could be achieved. The tests conducted were a chemical spillage test, a chemical submersion test, reflected and direct heat test.

SPILLAGE TEST

The first test conducted was the chemical spillage test where a chemical is 'spilled' by room temperature, left for 10 minutes and observations of the effects noted. This type of testing is to simulate accidental spillage where removal and washing is not delayed.

Reagents	Observation
Sulphuric Acid (Conc) 33 %	Severe degradation
Hydrochloric Acid (Conc) 28 %	Slight gloss & colour loss, no other effects
Nitric Acid (Conc) 22 %	Severe degradation
Sulphuric Acid (1 ml) 11 %	Slight gloss & colour loss, no other effects
Hydrochloric Acid (1 ml) 11 %	Slight gloss & colour loss, no other effects
Sodium Hydroxide (1 ml) 11 %	Slight gloss loss, no other effects
Sodium Hydroxide (Conc) 42 %	Slight gloss loss, no other effects
Bleach (12 % C12)	No effect or change
Brine 13 %	No effect or change
Ammonia (Conc) 38 %	No effect or change
Ammonium Hydroxide 28 %	No effect or change

Solvents	Observation
Alcohol (Ethanol)	No effect or change
Alcohol (Toluene)	No effect or change
Ketone (Acetone)	No effect or change
Chlorinated	No effect or change
Petroleum Spirit	No effect or change
Diesel	No effect or change

IMMERSION TEST

EGGER laminate samples were immersed in each of the chemicals for a period of one week. The solvent chemicals were topped up daily to compensate for evaporation. The immersion tests are designed to simulate prolonged contact exposure leakage or untended spillage at room temperature. Once the test was completed, the sampling were removed, washed, and examined for observation results.

Reagents	Observation
Sulphuric Acid (Conc) 33 %	Severe degradation
Hydrochloric Acid (Conc) 28 %	Gloss & colour loss, no other effects
Nitric Acid (Conc) 22 %	Severe degradation
Sulphuric Acid (1 ml) 11 %	Gloss & colour loss, surface blistering
Hydrochloric Acid (1 ml) 11 %	Colour yellowing, slight gloss loss, surface blistering
Sodium Hydroxide (1 ml) 11 %	No effect or change
Sodium Hydroxide (Conc) 42 %	Slight gloss loss, no other effects
Bleach (12 % C12)	Surface blistering, no other effects
Brine 13 %	No effect or change
Ammonia (Conc) 38 %	Surface blistering, no other effects
Ammonium Hydroxide (1 ml) 28 %	Surface blistering, no other effects

Solvents	Observation
Alcohol (Ethanol)	No effect or change
Alcohol (Toluene)	No effect or change
Ketone (Acetone)	No effect or change
Chlorinated	No effect or change
Petroleum Spirit	No effect or change
Diesel	No effect or change

REFLECTED AND DIRECT HEAT FROM FLAME TEST

- EGGER laminate samples were supplied, and were tested for reflected and direct heat. These two tests are designed to simulate accidental burn and long-term exposure use.
- Reflected heat test consists of the EGGER laminate sample being placed under a tripod which has a Bunsen burner and a ceramic mat placed over the flame. This is then left for a period of a minimum of two hours, to ascertain the affect on the laminate from heat reflection from the heated ceramic mat.
- The results found that after two hours of exposure the laminate showed no change in colour, finish, or degradation
- The second test of Direct Heat was performed with three exposure times of 5, 10 and 30 seconds. Tests were conducted and once completed the samples were removed and examined for results.
- The result of the five second test showed that the sample had surface crackle, but did not penetrate the coating of the product.
- The result of the ten second test showed signs of crackling, further blistering, and started sign of disfigurement. The thirty showed total degradation of the product and became a non-serviceable product.

SUMMARY

- EGGER Laminates showed excellent resistance to chemical spillage. The only chemical products that effected in the significant deterioration of the laminate were Sulphuric Acid and Nitric Acid, as expected as no polymer based laminate can withstand these chemical Reagents. Both Sulphuric and Nitric Acid either concentrated or diluted attack the base of the laminate that forms the central integrity of the structure. All laminates with this build structure will be affected in exactly the same way.
- No other Reagents, whether diluted or concentrated caused any major defects in the laminate. Results of concentrated acids such as Nitric and Sulphuric are dependant on exposure time and should be avoided at all times. Organic solvents did not affect the laminate and excellent resistance to the types of Reagents. EGGER Laminates and Worktops are also resistant to all common disinfectants.
- Heat resistance tests show that there were no effects after two hours of exposure. Samples tested to the direct flame test were dependant on the exposure time and the extent of damage. As a guide, flames and ignited chemicals should be removed or extinguished immediately, this will not cause the surface to have to be replaced.

CARE AND MAINTENANCE

EGGER Laminates and Worktop surfaces can be cleaned with a damp cloth and mild detergents. Use of abrasive cleaners, powders, scouring pads, steel wool, sandpaper etc. will damage the finish and reduce the stain, chemical resistance and service life-span of the product. Good laboratory practice dictates that all spills should be cleaned up immediately. Stubborn stains may be removed by use of organic solvent or hydrochlorite bleach, followed by wiping with damp cloth.

WARRANTY

For the warranty please refer to the website www.nikpol.com.au or contact Nikpol on 1300 NIKPOL in Australia.

