

PRODUCT DESCRIPTION

3D Films **RENOLIT COVAREN Nature** printed

GENERAL DESCRIPTION

RENOLIT COVAREN Nature films are single or multilayered PVC films which are 3-D thermo formable. This development is impressive because of its combination of visual look and a smooth-warm touch, realized by an extreme matt lacquer which is giving wood designs the characteristic of solid, sanded wood.

RENOLIT COVAREN Nature films are supplied as decorative surfacing for lamination to profile milled MDF boards and ensure processing (thermo-form presses) and application for interior equipment without problems. The films are primed on the reverse side to promote adhesion.

PROCESSING

- Forms with a silicone membrane or without a membrane.
- Adhesive: PUR-dispersion with hardener, the system should be adjusted according to glue supplier recommendations.
- Forming cycle of a 0,40 mm gauge **RENOLIT COVAREN** film (approx. values) without PE protection film:

| | |
|--|--------------------------------------|
| temp. of heating plate, with membrane | 140°C/ 284°F (membrane 110°C/ 230°F) |
| temp. of heating plate, without membrane | 125°C/ 257°F |
| time of preheating | 30 - 80 seconds |
| vacuum | 4 - 6 seconds |
| pressing time | 30 - 40 seconds |
| pressure | 4 - 5 bar |
| relaxing | 20 seconds |

Film with PE protection film may require specific machine conditions (especially during the preheating phase) as the PE protection film is sensitive to temperature and contact to the heating plate.

STORAGE CONDITIONS

- Store in a dry clean environment at room temperature with moderate humidity. The material can be suspended in unopened packaging. Store away from sources of heat and sunlight.
- Material should be acclimatised 72 hours prior to use at room temperature (about 20°C).
- Shelf life: without PE protection film about 12 months, with PE protection film 3 months.

CLEANING RECOMMENDATIONS

Due to the specific character of the film surface, contamination by intensively coloured substances, for example coffee, mustard, curry or red wine, have to be removed immediately (see also item 5. of the technical data including note). It is absolutely necessary to avoid drying up because otherwise cleaning without leaving stains is not possible.

We recommend using water with washing-up liquids (quantity according to the recommendation of the producer) or alcohol (ethanol, additive maximum 10%) for standard cleaning. As a precaution, the suitability of a product has to be tested in inconspicuous areas. Minimize the time of exposure and also the amount of cleaning agent in order to prevent damage to the surface.

Do **not** use abrasive cleaners, solvents, polishes, waxes or steam cleaning tools.

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TECHNICAL STATUS 2011

This technical information sheet represents our latest state of knowledge and shall inform without obligation. The herein stated details do not release the manufacturer of our products from their own inspections and tests, which must correspond with the relevant national guidelines for its individual intended purpose. Especially it is the duty of the customer to control if the purchased product is suitable for its intended purpose.

TECHNICAL DATA

| Properties / Test Methods | Values / Tolerances |
|---|---|
| 1. Thickness (*) DIN EN ISO 2286-3, 1998-07 | 0,35 and/ or 0,40 mm, depending on lacquer tolerance +/- 7,5 % |
| 2. Dimensional Stability 10 min. 100°C, circulated air | longitudinal max. - 5 % transverse max. + 2 % |
| 3. Embossing Stability 10 min. 120°C, circulated air | no visible changes to gloss, embossing or colour compared to the standard |
| 4. Light fastness DIN EN ISO 4892-2, 2006-06 DIN EN ISO 105 B 02, 2002-07 | ≥ 6 (blue scale) |
| 5. Chemical Resistance DIN EN 12720, 1997-10 (test substances and exposure times acc. DIN 68861/1, 2001-04) | Class 1 C (*1) |
| 6. Scratch Resistance DIN 68861/4, 1981-12 | Class 4 D (> 1,0 - 1,5 N) |
| 7. Resistance to Dry Heat DIN 68861/7, 2001-04 | Class 7 C (100°C) |
| 8. Resistance to Wet Heat DIN 68861/8, 2001-04 | Class 8 B (75°C) |
| 9. Abrasion Resistance DIN 68861/2, 1981-12 | Class 2 B (> 350 - 650 turns) |
| 10. Tensile Strength DIN EN ISO 527-3/2/200, 2003-07 | longitudinal ≥ 40 N/mm ² transverse ≥ 30 N/mm ² (depending on embossing) |
| 11. Gloss Level DIN 67530, 60° measuring head, 1982-01 | 0,5 - 4,0 |
| 12. Colour Tolerance for plain films, for production; not valid for metallic DIN 53236 (45/0), 1983-01 DIN 6174, 2007-10 (only light colours) | $\Delta E \leq 0,50$ $\Delta L \pm 0,30$ $\Delta a \pm 0,20$ $\Delta b \pm 0,30$ |
| 13. Colour Consistency of printed films and metallic designs: Original specimen comparison | Manufacture and visual assessment with original specimen. |
| 14. Fault definition | Optical deviations are regarded as faults if they are recognisable with the naked eye from a distance of 50 cm, within 30 seconds in good lighting. |

(*) the thickness refers to the smooth film surface and it may be up to 10 % more while using deep embosses – then it will be during one whole order and from order to order in the shown tolerance.

(*1) with the exception of: red wine, coffee, black tea, black currant juice