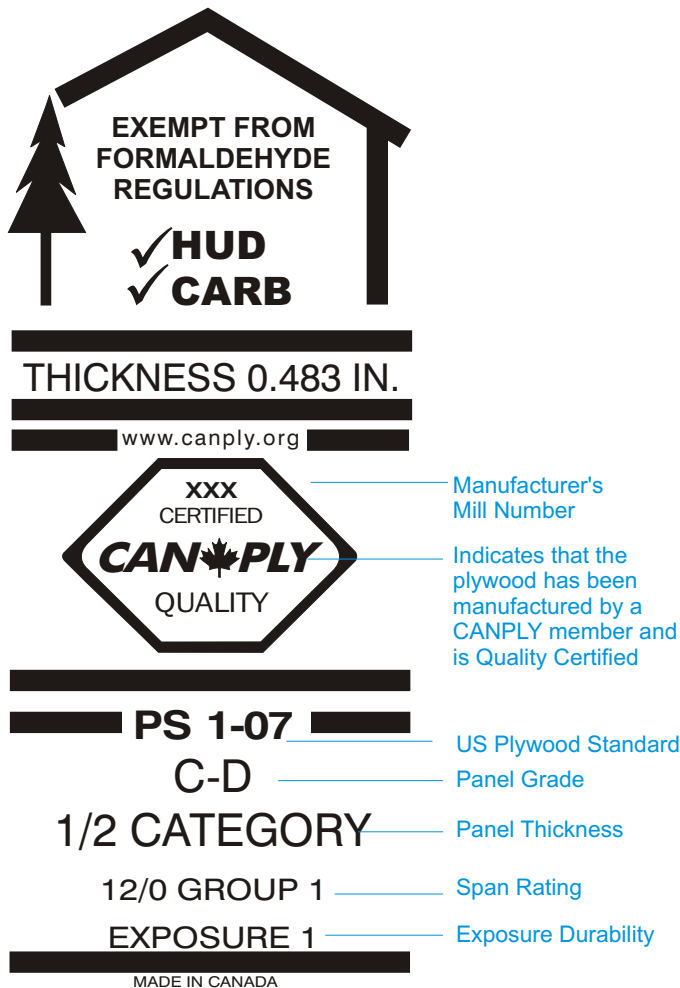


CANPLY Plywood Glue Characteristics

The Product > US bound plywood manufactured by mills belonging CertiWood/CANPLY is identified by the following certification mark.



Glue/Bond Information > Phenol Formaldehyde is a two component synthetic glue. Phenol (with the chemical formula C_6H_5OH) is reacted with formaldehyde (CH_2O) under controlled temperature conditions to produce a thermosetting (heat hardening) resin. This resin is a new chemical entity which possesses properties that are completely distinct from those of either phenol or formaldehyde, with the formaldehyde converted to stable methylene linkages which do not break down under exterior end use conditions. Phenolic resin is typically supplied to plywood manufacturers in a water solution premixed with a catalyst (caustic soda). Soda Ash and bulking ingredients called fillers and extenders (bark and wheat flours, for example) are added to improve gluing characteristics of the mix.

Plywood is manufactured by bonding layers of wood veneers with the phenolic resin glue mix, and polymerizing (curing or hardening) the glue in a "hot press". The hot press subjects panels to an approximate temperature of 150°C (300°F) and a pressure of about 1.4 MPa (200 psi), resulting in an inert water and boil-proof bond.

Formaldehyde Emission > Information developed by numerous organizations have consistently shown that formaldehyde emission associated with phenolic resin-bonded plywood is extremely low. This is attributable to characteristics of the adhesive, and polymerization of the resin during the manufacturing process (described previously). Formaldehyde emission testing of CANPLY EXTERIOR plywood has been conducted by various accredited laboratories, using internationally accepted test procedures such as:

- ASTM E1333-90 "Large Chamber"
- Japanese JAS "Desiccator"
- European Standard EN 120 "Perforator"
- DIN 52368/EN 717 "Gas-analysis"

Results have shown that formaldehyde emissions are near the minimum levels detectable by the tests, and that CANPLY EXTERIOR plywood qualifies for the most stringent classification levels that have been established (e.g. JAS F****, DIN E1, or EN Release Class A). Plywoods manufactured with phenol formaldehyde glue (such as CANPLY EXTERIOR plywood) qualify for the "No Added Urea Formaldehyde" credit in the LEED Building Rating System, and are also exempt from the California Air Resources Board's (CARB) regulations controlling formaldehyde emissions from composite wood products.

Specify CANPLY Plywood > Not all panel products utilize phenol formaldehyde glue, and other adhesives or products may emit higher formaldehyde levels. However, all panels certified as CanPly EXTERIOR plywood are manufactured using only phenol formaldehyde glue, and undergo extensive quality control and testing during manufacture and in the CanPly laboratory to meet stringent requirements. The CanPly mark is an assurance to buyers that panels meet the high standards established by the industry and that they will perform in a satisfactory and predictable manner.

All plywood certified by CANPLY employ the adhesive phenol formaldehyde. This adhesive meets the requirements of Exterior Glue according to the plywood manufacturing standard PS1-07.

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