SANSIN®

ENVIRO STAIN®

Glulam Preservation & Aesthetic Treatment Specifications

It is well accepted that wood, like many substrates, only deteriorates if moisture is an ongoing problem. Because the exposed sections of glue laminated structures are often well above grade, the only potential moisture problems will occur due to precipitation and melting snow. In both cases, the wetting is periodic and limited. In an exposed environment it is proven, - by structures still standing, such as; Norwegian Stave churches, Chateau Montebello, Pioneer log structure settlements such as Fort Walsh, that untreated wood will maintain its structural integrity for centuries.

The following recommended treatment will provide maintainable aesthetic value as well as provide protection for the exposed areas, which eliminates the periodic wetting. If the surface protection (Borlox) were to deteriorate because it was not maintained properly, the borate pre-treatment would still preserve the wood against decay from wetting.

Recommended treatment for the exposed parts of Glue Laminated Structures:

I) That the properly prepared surface of the Glue Laminated Beam is coated in Boracol 20-2 according to the published directions for use. This treatment will penetrate into the wood and protect against decay and insect attack. When Boracol is applied, it establishes a reserve of borates that will travel within the wood in future years to areas that require the Borate wood preservative due to moisture infection. Borates flow in greatest concentration to areas of greatest moisture content.

II) That any exposed holes drilled in the Glue Laminated Beam be coated in Boracol 20-2 by filling the hole with Boracol and allowing the Boracol to diffuse away into the wood. If the hole goes through the beam completely than trap the Boracol in the hole by plugging the bottom of the hole with a plate. Proceed by filling the hole with Boracol and allow it to diffuse for 5 minutes than drain hole by removing plate. This treatment will provide preservative in a location that is potentially vulnerable to moisture problems when exposed.

III) That 48-72 hours after the Boracol treatment a two coat application of Borlox is applied to the surface of the Glue Laminated beam according to the directions for use. The Borlox treatment will seal in the Boracol wood preservative as well as provide desired aesthetics and maintainable protection against moisture and destructive ultra violet light.

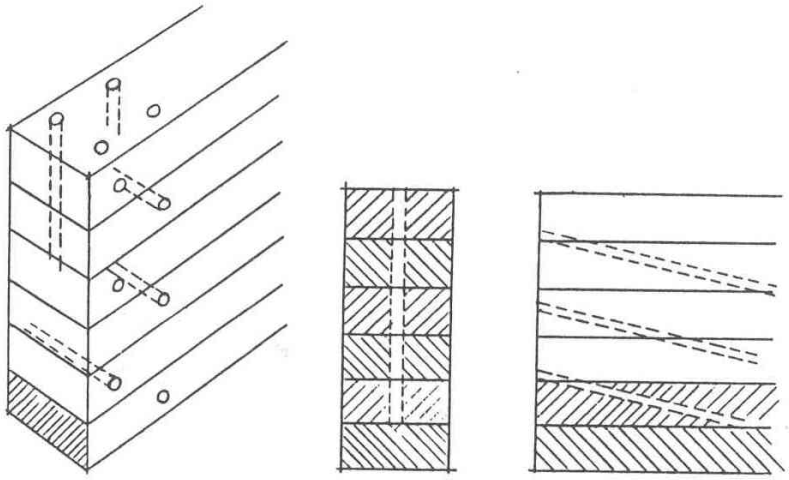
IV) That any exposed holes drilled in or through the Glue Laminated beam be coated in Borlox. Apply Borlox using an appropriate tool, to the wall of the hole by saturation so the Borlox penetrates well and seals the entire surface against moisture penetration. If the hole goes through the beam completely than trap the Borlox in the hole by plugging the bottom of the hole with a plate. Proceed by filling the hole with Borlox and allow it to diffuse for 5 minutes than drain the hole by removing the plate. This treatment will prevent any potential moisture from penetrating and wetting the wood within the hole at a location that is potentially vulnerable to moisture problems when exposed. On the bottom side of columns at ground level, we suggest to do a three-coat application of Borlox with the appropriate drying time between coats.

V) To place Borate Rods in locations potentially subject to moisture problems if the previous treatments should ever unforeseeably wear out. The Borate Rod is a preventative treatment used in wood poles or beams. It is proven that if properly used, Borate Rods can extend the life of wood many times. As an example, the utility companies are using thousands of Borate Rods annually. In their testing it is proven that the Impel rod has extended the life of a utility pole by 16 years. Impel rods are normally

used in utility poles that are placed in wet environments. We suggest placing impel rods strategically as illustrated in *Figure A* and use the proper size and amount of Impel Rods as specified by the technical information attached. Areas we suggest to place Impel Rods are directly under any exposed joinery and near the very bottom of the columns close to ground level.

An inspection should take place every five years by a qualified individual to determine what maintenance is necessary. A qualified contractor should then complete the recommended maintenance. The only part of the treatment that will require maintenance is the Borlox coating. We suggest a maintenance coat is applied to an appropriately prepared surface every 5-8 years or when necessary.

Figure A:



Insertion of IMPEL (Boron) Rods in cantilevered beam. Holes are drilled vertically and horizontally or sloping from the end grain.