

Analysis of Different Resins in Web-to-Flange Joints

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Abstract : The industrial process adds to engineering wood products features absent in solid wood, with homogeneous structure and reduced defects, improved physical and mechanical properties, bio-deterioration, resistance and better dimensional stability, improving quality and increasing the reliability of structures wood. These features combined with using fast-growing trees, make them environmentally ecological products, ensuring a strong consumer market. The wood I-joists are manufactured by the industrial profiles bonding flange and web, an important aspect of the production of wooden I-beams is the adhesive joint that bonds the web to the flange. Adhesives can effectively transfer and distribute stresses, thereby increasing the strength and stiffness of the composite. The objective of this study is to evaluate different resins in a shear strain specimens with the aim of analyzing the most efficient resin and possibility of using national products, reducing the manufacturing cost. First was conducted a literature review, where established the geometry and materials generally used, then established and analyzed 8 national resins and produced six specimens for each.

Keywords : engineered wood products, structural resin, wood i-joist, Pinus taeda

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