Project Overview

FRP REPAIR OF DETERIORATED WOOD BEAM

Name: Kinder Morgan Plant Glulam Beam
Type: Wooden Beam
Location: Tampa, Florida
Completed: December 2009

PROBLEM

Leakage and very damp environment had caused deterioration of this large glulam beam in a plant. The end of the beam was split, compromising the load-carrying capacity of the beam.

SOLUTION

QuakeWrap® engineers developed a repair system and provided the materials to fix the beam as detailed below:

1. QuakeBond™ J201TC was placed between all the layers of timber and the beam was temporarily clamped with 5 external steel clamps to press all sections together as shown on the right.
2. QuakeWrap® VU18C carbon fabric was saturated with QuakeBond™ J300SR Saturating Resin and the bands were wrapped around the beam in regions between the clamps.
3. A day later after the epoxy had cured, the steel clamps were removed and the remaining portions of the beam were repaired similar to the procedure mentioned in Step 2 above.

The finished beam is shown in the photograph below.

Technical Highlights

- FRP repair provided to glulam beam to correct severe deterioration of the wooden glulam beam.
- Repair work done with minimal disruption to the plant operations.
- The original strength of the beam was re-stored.

Credits

Structural Engineer: QuakeWrap, Inc.
Material Supplier: QuakeWrap, Inc.
Contractor: Premier Corrosion