

### Joint-Free Manufacturing Floor Slab

Gilliland Pallet Company, New Wilmington, PA

April 2000

#### *Project Description:*

One of the earliest flatwork projects utilizing FORTA-FERRO® structural synthetic fiber was for a wood pallet manufacturing plant in New Wilmington, Pennsylvania. This high-abrasion, high-load, and high-impact requirement floor was originally specified to include #4 rebars on 18" centers. FORTA-FERRO® was used at various trial dosages (ranging from 3.75 lbs. to 7.5 lbs./cubic yard) and at two fiber lengths (1-1/2" and 2-1/4") to determine potential reinforcement-level thresholds. The 6" thick, 4000 p.s.i. concrete slab was designed for a potential live load of 20,000 lbs./square foot, and to withstand the impact of logs falling from four feet above the slab. The 200 total cubic yard project was placed in four separate joint-free bays of 30 feet x 90 feet each to minimize forklift difficulties. After two years in service, only one bay has developed a hairline crack (at midspan of the bay which used the shortest length and lowest fiber dosage), while all others remain crack-free with a very smooth and durable wearing surface.



#### *Details:*

**Owner:** Gilliland Pallet Company, New Wilmington, Pennsylvania

**Concrete Contractor:** Jeemco Companies, New Wilmington, Pennsylvania

**Concrete Supplier:** R. W. Sidley, Inc., West Middlesex, Pennsylvania

**Fiber:** FORTA-FERRO® 1-1/2" and 2-1/4" structural synthetic

**Fiber Dosage:** 3.75 and 7.5 lbs./cubic yard



**FORTA®**