



## HAWAII BRIDGE DECK - OAHU, HI

### PROJECT DESCRIPTION

To avoid historic bridge deck problems, DOT engineers created and trialed a new HPC - High Performance Concrete - deck mix that included a relatively high dosage of synthetic fiber reinforcement as a key ingredient. The pilot project was the North-South Road separation bridge that carries Interstate Highway Route H-1 over the North-South Road on the island of Oahu, one of the fastest growing areas of Hawaii. The fiber consisted of 4.0 lbs. / cu. yd. of FORTA-FERRO<sup>®</sup> and 3.0 lbs. / cu. yd. of ECONO-MONO<sup>®</sup> which **mixed easily and uniformly** and resulted in a very **workable mix** that was easy to finish. HI-DOT engineers reported an impressive **75% reduction in shrinkage and a 60% reduction in creep**. Most impressive was the fact that the entire deck length was placed with **no expansion joints**, and subsequent inspections have reported **no cracking after over 4 years of use**.<sup>®</sup>

### KEY POINTS

- Improved Durability
- Reduce Surface Spalling
- Reduce Cracking
- Reduce Plastic and Drying Shrinkage

### DETAILS

**Date:** April 2009

**Location:** Oahu, HI

**Dosage:** 4.0 & 3.0 lbs. / cu. yd.

**Fiber:** FORTA-FERRO<sup>®</sup> 2-1/4"

**Owner Type:** Government

**Application:** Slab-on-Metal-Deck

Contact us for more details