AMERICAN GALVANIZERS ASSOCIATION

2003 Excellence in Hot-Dip Galvanizing
Water & Marine

PIER 1 & PIER 21 REPLACEMENT

Galvan Industries, Inc.

Location:
Norfolk Naval Base
Norfolk, Virginia

Specifier:
Naval Facilities
Engineering Command

This 90 by 1,500-foot structure heralds a new generation of piers at the Norfolk Naval Base, serving as a model for the rehabilitation or replacement of all the base's piers within the next 25 years. Its innovative design incorporates precast concrete pile caps, slabs, and edge beams protected by aesthetically pleasing hot-dip galvanized fenders and corner bolsters.

Galvanizing was chosen to protect the 500 tons (per pier) of fenders and bolsters due to its proven ability to protect steel from corrosion in a seawater environment. The pier's frames, access ladders, ramps, and walkway grating and handrail were also hot-dip galvanized.

The design of the bolsters required substantial coordination between the designer, fabricator, and galvanizer in order to ensure adequate venting and drain holes for cavity spaces. This cooperation paid off even before completion of the pier, as a runaway barge struck one of the hot-dip galvanized bolsters. The project engineer later indicated that the barge would have destroyed the end of the pier if the galvanized bolster had not been in place.

Hot-dip galvanizing delivered an aesthetic, functional, and durable element of the pier. The success of this project is clear, as the U.S. Navy now plans to rebuild all of its Norfolk piers over the next decade, with hot-dip galvanizing incorporated into its plans.