



# CASE HISTORY ~ CH-053

## BIO-DUR 561 SEALS PITTING AND LEAKING WELD AREAS

**THE CHALLENGE:** A university research reactor built in 1974, part of a major university radiation laboratory, is contained in a 75,000 gallon tank of demineralized water. The tank is constructed from high density concrete with a welded ¼" aluminum liner. Leaks in the liner began to appear after about ten years of service and were sealed by welding new aluminum plates over them. After approximately an additional ten years, new leaks appeared until the ultimate rate of leaking was several gallons per hour in 2001. A practical, permanent sealing solution was required which could be installed by university staff.



**THE SOLUTION:** The university selected TFT BIO-DUR 561 for this application. BIO-DUR 561 is available in a "Nuclear" version approved by EPRI as an underwater applicable coating suitable for Service Level 1 applications within the primary containment of a nuclear plant. Since this application was to be made in dry conditions, it would be extremely straightforward although proven resistance to radiation was reassuring.

BIO-DUR 561 is the original Kevlar® reinforced underwater applicable epoxy coating formulated by TFT. It finds wide usage in Marine and Offshore industries where it is valuable as an anti-corrosion coating applied to immersed structures such as drilling rigs, shore facilities and pipelines which cannot be readily dried out

for coating with more conventional materials.

Several variants of the BIO-DUR 561 formula have been made with changes in viscosity and cure rate to provide materials tailored for specific applications



**RESULT:** The BIO-DUR 561 coating was applied by university personnel to selected portions of the aluminum liner including weld seams along the pool floor, around beam flanges, and on several areas of pitting.

After refilling the pool, no further leaking was observed. In addition, the pool remained leak-free when last checked in 2005 after four (4) more years of service.

For more information regarding this project, contact:

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PRODUCT: BIO-DUR 561

YEAR: 2001

LOCATION: EAST COAST, USA

*We go where others fear to spread!*

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