



CANADIAN METAL-AD CORPORATION

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Deep pitting and corrosion damage (.025" deep) caused major refueling problems.



During an outage, Brush Plating repair was completed in 3 hours at the reactor face.



Repair tested positive and equal to original sealing pressure limits.

SERVICE BULLETIN

End Fittings with Seal Face Damages

Canadian Metal-Ad Corporation (CMC) is proud to announce our development of a soundproof repair procedure for End Fitting leakage problems. Our work completed in Romania's Cernavoda Nuclear Power Plant (2009) marked our 10th successful in-situ End Fitting repair using CMC's Brush Plating technique.

Selective Electrochemical Deposition Metalizing (SEDM) is the term given to describe the process of metal addition on small area plating without the use of immersion. This process is also referred to as Brush Plating or Electrochemical Metalizing (ECM). Similar in technology to tank electroplating, the SEDM technique electrolytically deposits a wide range of engineering metals out of specially prepared solutions. Due to its pinpoint accuracy in area and thickness, SEDM often does not require post-surface finishing of the deposit. Being a mobile process, it is the preferred method of metal build-up on parts too large or difficult to be disassembled or removed.

During an outage, severe impact damage was discovered on the Seal Face of an End Fitting; thus, highly rendering a potential for leakage during the refueling process. Many possible repair methods were considered. Brush Plating was chosen for its reliable bonding strength and hard porosity free deposit - in addition, very little heat is generated throughout the deposition process.

Canadian Metal-Ad Corporation was contacted about this problem in South Korea. We had one of our technicians on-site in Wolsong 2, South Korea. Our technician spent 3 days on-site; however, the actual repair time was less than 4 hours, minimizing the operator's exposure to the high fields associated with working on the reactor face. Twice, Korea Hydro encountered damage of this type, and in both cases, CMC was chosen to do the repair.



In-situ repair performed on End Fitting at Bruce Nuclear Power, Ontario (2005).



Repair of E-Face surface prior to the start up at Wolsong 2, South Korea (2002).