CC Technologies
SOLVING MATERIALS PROBLEMS
THROUGH INNOVATION

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Mr. Mike Sand
United Coatings
19011 E.Cataldo
Greenacres, WA 99016

Dear Mike,

Attached is the report for our test project on the EN10290 evaluation of a protective coating. If you have any questions, feel free to call me at (614)761-1214.

Sincerely,

Greg Ruschau
Testing Manager

Objective: Determine the cathodic disbondment (CD) resistance of the coating in accordance with EN10290, Steel tubes and fittings for onshore and offshore pipelines – External liquid applied polyurethane and polyurethane-modified coatings.

Experimental: Two coatings were supplied by United Coatings as 6" square coated panels. A 6mm drill bit was used to create a coating holiday in each sample, and a 4" CPVC test cell was affixed to the coating with RTV silicone sealant. A test solution of 3% NaCl in deionized water was used with a Pt-coated niobium anode inside of a glass tube with a porous fibrous plug. A potential of 1.5V vs. a saturated calomel electrode was applied. The test setup is pictured in Figure 1.

The CD test was conducted for 28 days at (23 $\pm$ 2) ^{o}C in accordance with section 7.10 of the European standard.

Results: After completion of the 28 days, the test cell was removed and the evaluation conducted in accordance with the standard. The results of all test quadrants are provided in Table 1.

Table 1: Cathodic Disbondment Test Results

	Sample #1 (th =	Sample #2 (th =
Quadrant #	Disbonded radius, mm	Disbonded radius, mm
1	10	9
2	10	9
3	11	9
4	10	10
5	9	8
6	10	9
7	9	9
8	8	8
Average Disbondment	**9.625**	**8.875**

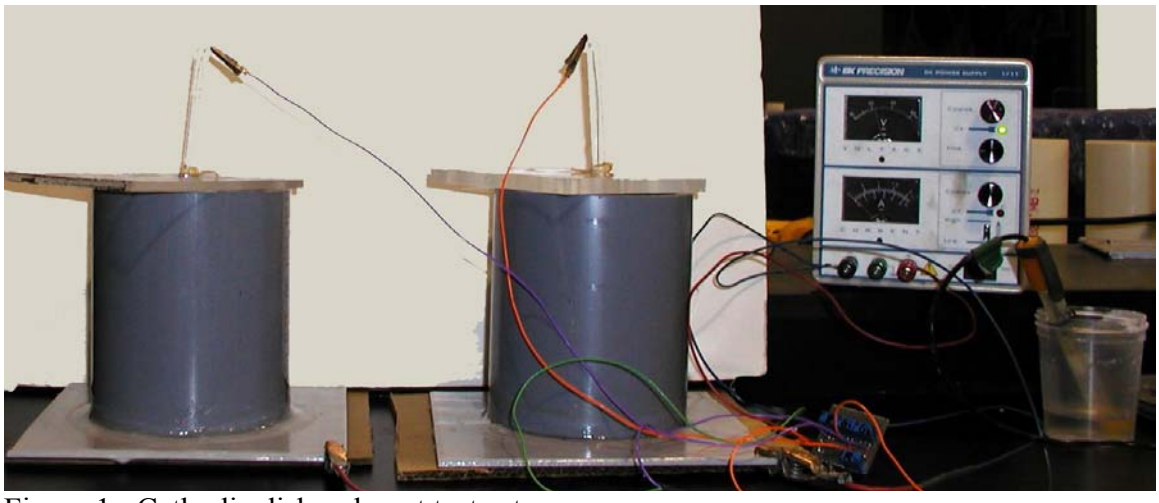

Figure 1: Cathodic disbondment test setup