



**APPLIED SURFACE CONCEPTS**

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**TENSILE BOND TESTS ON SIFCO DALIC NICKEL CODE 2085 DEPOSITS**

Tensile bond tests were run on 0.003 in. thick SIFCO DALIC Nickel Code 2085 deposits plated on SAE 4130 Steel. The tests were run in accordance with ASTM C 633-79 entitled "Standard Test Method for Adhesion or Cohesive Strength of Flame-Sprayed Coating". The end faces of eight samples, made from 1 in. diameter stock, were plated using standard SIFCO DALIC Process procedures. The plated samples were then cemented together to form 4 pairs of samples. The samples were then tested in a tensile test machine. The following results were obtained.

SUBJECT	SAMPLE NO.			
	1	2	3	4
Batch of 2085	X	X	Y	Y
Current Density Plated at amp / sq in.	4	7	4	7
Failure at (lb)	8,070	9,540	9,170	8,600
Failure at (psi)	10,280	12,150	11,680	10,960
Failed in	Cement	Cement	Cement	Cement

The results indicate that the cohesive strength of Nickel Code 2085 deposits and their adhesion on 4130 steel is at least (an average of) 11,280 psi. It should be noted that this is for a deposit ranked as having fair adhesion in the SIFCO DALIC Process Instruction Manual.

This Technical Service Bulletin is intended to provide supplementary information to that found in the latest edition of the SIFCO Process Instruction Manual. Changes and/or improvements in technology may require further modification of this bulletin.

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