
 CARDIFF UNIVERSITY <hr/> PRIFYSGOL CAERDYDD	 SPIRE	Ref.:SPIRE-UCF-PRC-001895 Issue: 1.0 Date:4 December 2003 Page: 1 of 5
		Assembly Procedure – (Electrical insulated joints)

Assembly Procedure

(Electrical insulated joints)




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	Assembly Procedure – (Electrical insulated joints)	

1. Introduction

This document describes the preparation and assembly procedures for the electrical insulated joint used at 300 mK and 2 K.

2. Sample Preparation

- The bonding faces has to be flat, machined
- Protect non-mating surfaces with Kapton tape



- The bonding surfaces roughened with P120 grid emery cloth
- Remove Kapton tape



- Clean all parts in acetone for 30 minutes in ultrasonic bath

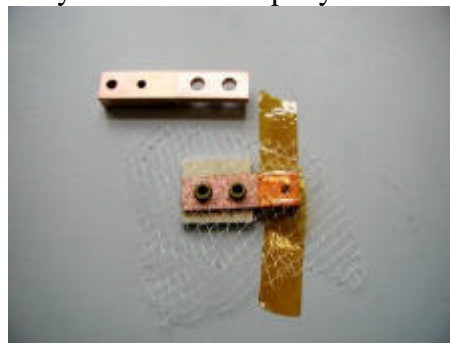
3. Epoxy Preparation

- Mix Stycast 1266 (Emerson & Cuming) according to the technical data Sheet in a ratio of 28 g Part B per 100 g Part A
- Outgassing the epoxy under vacuum (end pressure: $1 \cdot 10^{-1}$ mbar) for 20 minutes

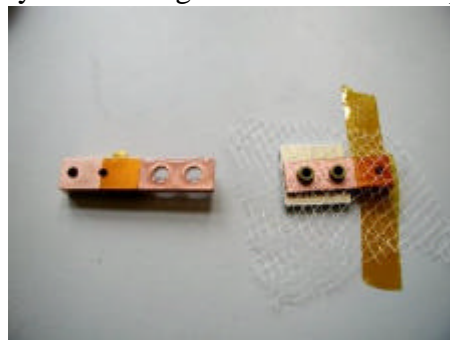
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Assembly Procedure – (Electrical insulated joints)**4. Assembly Procedure**

- Protect non-mating surfaces with Kapton tape
- Press Torlon sleeves and bolts with Bellville washers through one part of the joint
- Apply epoxy with a plastic stick onto the bonding face of this part
- lay one layer of Dacron mesh (B4A, F020400; average thickness 70 μm) on top the epoxy and if necessary apply another layer of epoxy to make sure the Dacron net is completely covered with epoxy





- Epoxy applied evenly over mating face of the counter part






- Join mating faces of both parts together and secure the joint by nuts with Bellville washers



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- Torqued the bolts finger tight and remove excess epoxy
- Measure the resistance across the joint, which should be initial greater than 50 k Ω
- Place joint into oven and allow the epoxy to cure for 90 minutes at 65 °C
- Measure the resistance across the joint, which should be greater than 20 M Ω

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5.

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