

The only official copy of this file is the one on-line on the Superconducting Magnet Division website. Before using a printed copy, verify that it is the most current version by checking the document issue date on the website.

RHIC-MAG-R-8800B

Page 1 of 3

1. Scope:

This procedure establishes and defines the requirements for electrical insulating material applied to round superconducting seven strand cable (.039 in. diameter) used for RHIC helical magnet coils. BNL will supply the superconducting cable. The seller shall provide all additional material, certifications, personnel and all other associated facilities necessary to fabricate, inspect, test, package and ship the insulated material as specified herein.

2. Applicable Documents:

The following documents, of the issue in effect on the date of invitation to quote, form a part of this procedure to the extent specified herein:

DuPont-Summary of Properties E - 72087	Kapton Polyimide film - General Information
DuPont General Procedures Bulletin GS-85-3	Procedures for the film properties and characteristics of Kapton Polyimide Film
BNL Engineering Drawing RHIC-MAG-R-7152-C	12000030 Splicing Electrical Insulating Tape

3. Process Materials - The following process or magnet materials are referenced for use in this procedure and shall be controlled for procurement, use, storage and handling by the documents listed below. Substitutions require prior BNL written approval.

<u>Procedure Reference</u>	<u>Technical Reference</u>	<u>Source/Control</u>
Polyimide Film, 0.001-in. thick, 0.180-0.205 in. wide	Kapton Film Type HN	E.I. DuPont Co. Polymer Products Dept. Industrial Films Div. Wilmington, DE

4. Requirements:

4.1 General - Any and all conflicts among the requirements listed in this procedure are to be brought to the attention of the buyer for resolution prior to the commencement or continuation of work. Under no circumstances is the seller to take any initiative without this resolution.

The only official copy of this file is the one on-line on the Superconducting Magnet Division website. Before using a printed copy, verify that it is the most current version by checking the document issue date on the website.

RHIC-MAG-R-8800B

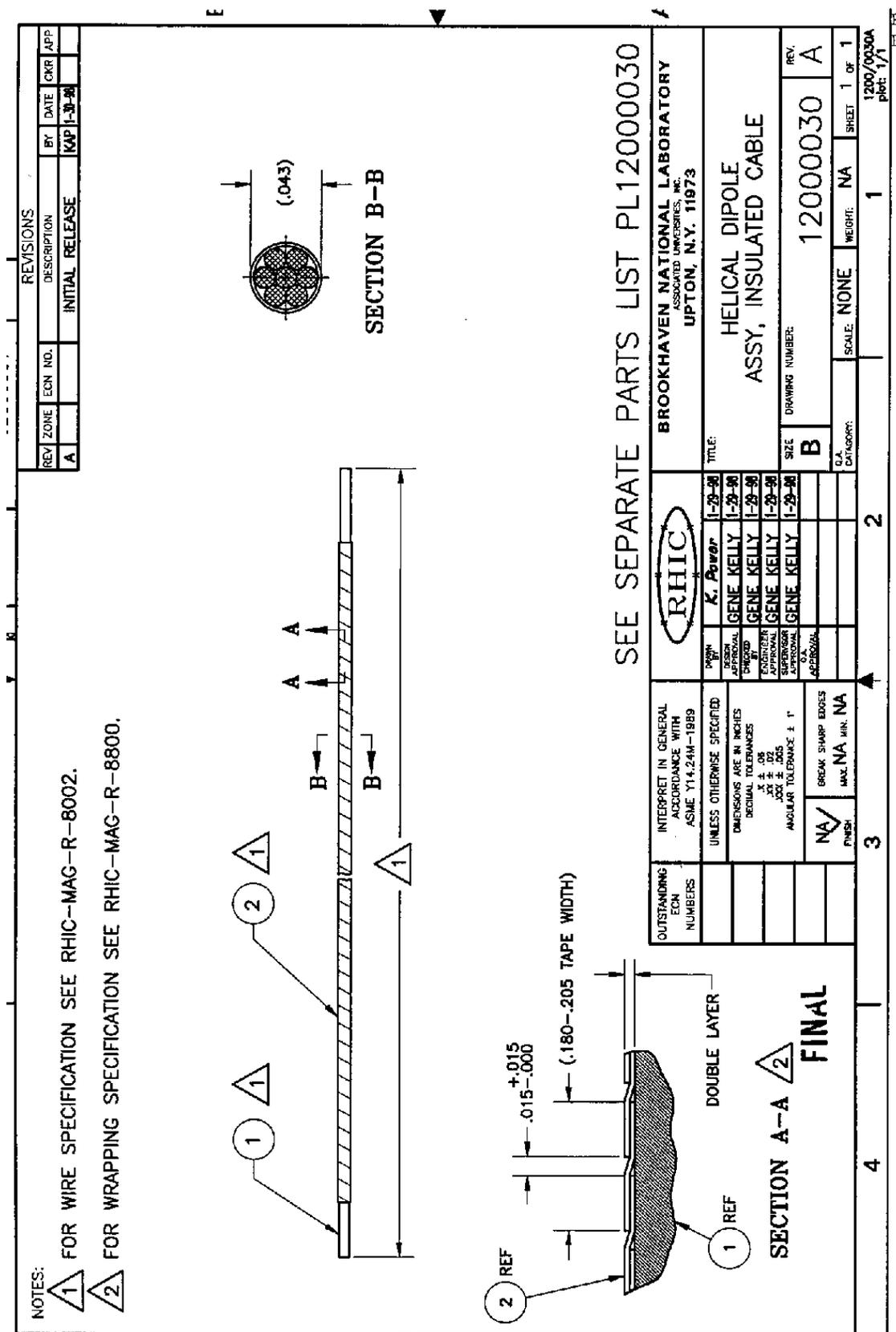
Page 2 of 3

- 4.2 Insulation Material - The insulation material shall be a polyimide polymer in the form of a film with electrical and mechanical properties equal to or better than those listed for Kapton H film in DuPont Bulletin GS-85-3.
- 4.3 Handling - Insulated wire must be handled with care during fabrication, packing, shipping and usage so as not to damage the insulation and/or wire.
- 4.4 Procedure:
 - 4.4.1 Wind the polyimide film on the cable in a spiral manner with 40-49% overlap, single wrap. The tensile force on the film during winding shall be 5.0 to 10.0 ounces.
- 4.5 Splicing of Kapton Tape:

If the insulating tape needs to be spliced, then the vendor should use the method outlined in RHIC-MAG-R-7152-C. Alternate methods are allowed such that the Kapton film thickness at the splice joint is $<0.003''$. The vendor must disclose to BNL the procedure used. Splice section is to be indicated by marking with indelible ink. No off-line repairs of the insulation shall be permitted without BNL's consent.

5. Quality Assurance Provisions:

The Quality Assurance Provisions of this procedure require compliance with the procedural instructions described above.



NOTES:

1 FOR WIRE SPECIFICATION SEE RHIC-MAG-R-8002.

2 FOR WRAPPING SPECIFICATION SEE RHIC-MAG-R-8800.

REVISIONS			
REV	ZONE	ECN NO.	DESCRIPTION
A			INITIAL RELEASE
			BY DATE CKR APP
			KAP 1-30-98

SEE SEPARATE PARTS LIST PL12000030

OUTSTANDING ECN NUMBERS		INTERPRET IN GENERAL ACCORDANCE WITH ASME Y14.24M-1989 UNLESS OTHERWISE SPECIFIED				BROOKHAVEN NATIONAL LABORATORY ASSOCIATED UNIVERSITIES, INC. UPTON, N.Y. 11973	
				DESIGN APPROVAL	DATE	DESIGN CHECKED BY	DATE
				ENGINEER	1-29-98	GENE KELLY	1-29-98
				SUPERVISOR	1-29-98	GENE KELLY	1-29-98
				DRAWN	1-29-98	GENE KELLY	1-29-98
				CHECKED			
				APPROVAL			
				DRAWING NUMBER	12000030		
				REV.	A		
				SCALE	NONE	WEIGHT	NA
				SHEET	1	OF	1
				CLASSIFY			
				DATE	1200/030A		
				PLT	1/1		

DOUBLE LAYER

SECTION A-A

FINAL