Alpha Magnetics, S.O._____
Revision_____
Date_____

# ALPHA MAGNETICS, INC.

# KTeV ANALYSIS MAGNET TRAVELER FOR THE DOUBLE COIL LAYER

UPPER DOUBLE COIL LAYER 3832.252-ME-267030
7/8 LOWER DOUBLE COIL LAYER 3832.252-ME-267044

Prepared by Don Klein/Dennis Klein

Alpha Magnetics, S.O._____
Revision_____
Date_____

## 5.0 Double Layer Production Complete

5.1 QA/QC Inspector verify that sections 1 through 4 are accurate and complete and that all Discrepancy Reports have had disposition made.

Comments:

_____

_____

_____

Dennis Klein 7-12-94

QA/QC Inspector Date

5.2 Production Supervisor verify that section 1 through 4 are accurate and complete.

Comments:

_____

_____

_____

Dennis Klein 7-12-94

Production Manager Date

5.3 Fermilab representative verify that section 1 through 4 are accurate and complete.

_____ _____

Fermilab Representative Date

Alpha Magnetics, S.O._____
Revision_____
Date_____

Check applicable drawing below, insure that the drawing is legible.

_____Upper Double Coil Layer 3832.252-ME-267030

____✓____Lower Double Coil Layer 3832.252-ME-267044

Double coil layer made from single inlet layer No.__7__
and single outlet layer No.__8__.

## 1.0 General Notes

1.1 White (lint free) gloves or surgical latex gloves shall be worn by all personnel when handling all product parts after the parts have been prepared/cleaned.

1.2 All steps that require a sign-off shall include the Technician/Inspector's first initial and full last name. All entries in the Traveler are to be in black ink.

1.3 No erasures or white-out will be permitted to any documentation. All incorrectly entered data shall be corrected by placing a single line through the error, initial and date the error before adding the correct data.

1.4 Any and all data, signatures or written notes shall be eligible by others.

1.5 Half lap - 40% to 50% coverage (overlap)

1.6 If damage or a deviation from the specifications are found, a Discrepancy Report Form must be completed and attached behind the page in which the discrepancy occurred before production can proceed. All Discrepancy Reports issued shall be recorded in the left margin next to the applicable step.

1.7 If coil is not being worked on it shall be protected from the elements and dust by wrapping it in an ant-static sheeting (such as Herculite).

1.8 Attach to the appropriate traveler any requests for a variance from previously accepted procedures and the Fermilab approval.

1.9 Attach to the traveler a copy of that portion of the coil fabrication and testing plan which is relevant to the work covered by the traveler.

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## 2.0 Layer Assembly

2.1 Select proper inlet and outlet single layers. Nest single layers together and mark leads to be cut to proper length. Make certain double coil layer is clamped tightly.

2.2 Cut layer pigtails to proper length and machine end in accordance with drawing 3832.252-MB-267033A, 3832.252-ME-267030C or 3832.252-ME-267044C.

2.3 Make certain all chips are removed from I.D. of conductor.

2.4 Deburr and degrease pigtail ends.

2.5 Record results of machining conterbore depth:

Inner layer .740
Outer layer .730
Bevel Angle 45° Degrees

2.6 Fit two layers together with ferrule in place. Measure between pigtail ends and record gap .035. Prior to fitting two layers together, place .033" Scotchply cloth between layers per drawing 3832.252-MC-267034.

2.7 Weld butt joint per applicable drawing, and approved welding procedure.

# 3.0 Double Layer Testing

## 3.1 Water Test - Flow Rate

Flush double layer with clean domestic water for 10 minutes. Apply minimum of 30 PSIG (60 PSIG preferred).

Record:
Pressure 56
Flow Rate 3.12 GPM
Water Temp 65 Degrees F

NOTE: See attached chart (Fig. I) for acceptable flow rate.

## 3.2 Water Test - Hydrostatic

Fill circuit with water and pressurize to 375 + 25/-0 PSIG. Isolate from pressure. No drop in pressure shall occur within a 30 minute period.

Record:
Pressure 375 PSIG
Results ~~ok~~ Failed

[signature] 7-6-94
Test Technician Date

[signature] 7-6-94
QC/QA Inspector Date

we located a leak so we ground it down and Joey rewelded it Then we retested it and it passed.
7-6-94
[signature]

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Date_____

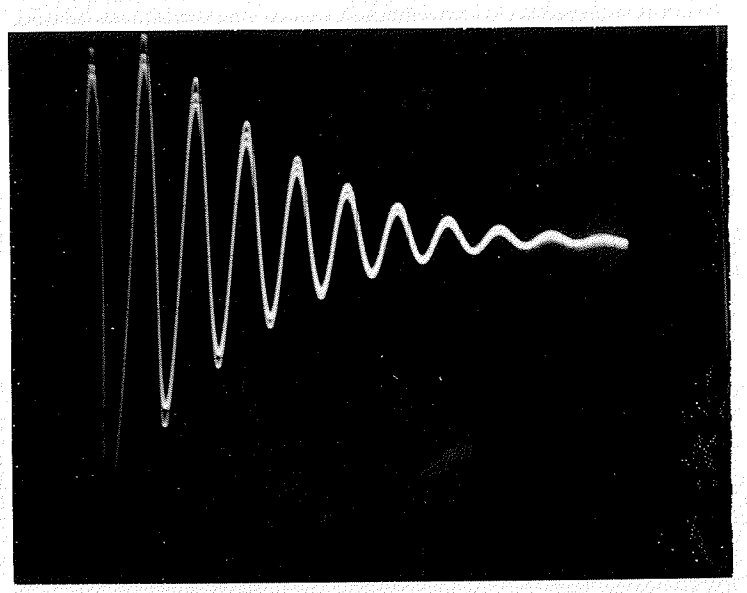
3.3 Dye Penetrant Test

Cracks longer than l/l6" shall be filed out and rewelded. Attach results.

Tested By E. Cobb
Organization_____
Test Date 7-6-94

3.4 Perform ring test on double layer before double layer insulation procedure. Apply 80 volts across coil terminals.

Volts/Div. .1
Sweep .2



Test Technician E. Cobb  Date 7-5-94

Dennis Klein  7-5-94
QA/QC Inspector  Date

Alpha Magnetics, S.O._____
Revision_____
Date_____

## 4.0 Double Layer Post Electrical Test

### 4.1 D.C. Resistance Test

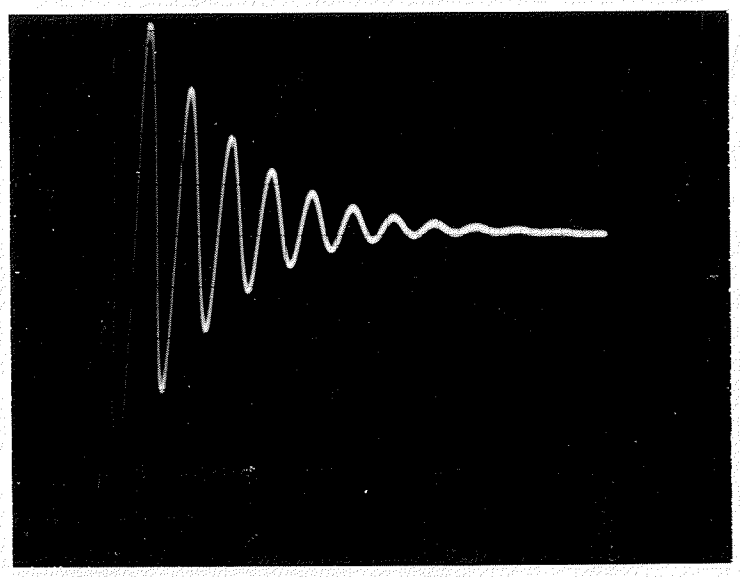
Bridge S/N or Model 1656 GR
Resistance .00694 Ω
Coil Temp 60 Degrees F
Relative Humidity 40 %

### 4.2 D.C. Hipot Test (200 Volts D.C.)

Voltage 200 D.C.
Leakage Current 0
Temperature 65 Degrees F
Relative Humidity 40 %

### 4.3 Ring Test (80 Volts D.C.)

Voltage 80 D.C.
Volts/Div. .1
Sweep Rate .2



Test Technician E. Conly Date 7-12-94

Dennis Allen 7-12-94
QC/QA Inspector Date