# Fermi National Accelerator Laboratory
# Batavia, IL 60510

# MQTM TRIM MAGNET
# INCOMING INSPECTION TRAVELER

## Reference Drawing (s):
## ME-351349

| | |
|---|---|
| **Project # / Task #:20/20.22.1.1.8.1** | **Job #:197** |
| **Released by: Bob Jensen** | **Magnet / Device Series: MQTM** |
| **Date:9/18/03 2:37:48 PM** | **Scan Pages:** 9 |
| **Prepared by:** M. Cullen | |

| Title | Signature | Date |
|---|---|---|
| **TD / E&F Process Engineering** | **Bob Jensen**<br>Bob Jensen / Designee | **6/19/03** |
| **TD / E&F Assembly** | **Dan Smith**<br>Dan Smith / Designee | **6/19/03** |
| **TD / E&F Project Engineer** | **Alexander Makarov**<br>Alexander Makarov / Designee | **6/19/03** |
| **TD / E&F Project Manager** | **John Carson**<br>John Carson / Designee | **6/19/03** |

## Revision Page

| Revision | Step No. | Revision Description | TRR No. | Date |
|---|---|---|---|---|
| None | N/A | Initial Release | N/A | 11/7/02 |
| A | 4.1 | Only perform complete magnet electrical inspection. | 1560 | 6/17/03 |

**Ensure appropriate memos and specific instructions are placed with the traveler before issuing the sub traveler binder to production.**

1.0 General Notes

1.1 White (Lint Free) Gloves (Fermi stock 2250-1800) or Surgical Latex Gloves (Fermi stock 2250-2494) 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/Inspectors first initial and full last name.

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 All Discrepancy Reports issued shall be recorded in the left margin next to the applicable step.

1.5 All personnel performing steps in this traveler must have documented training for this traveler and associated operating procedures.

1.6 Personnel shall perform all tasks in accordance with current applicable ES&H guidelines and those specified within the step.

1.7 Cover the magnet assembly with green Herculite (Fermi stock 1740-0100) when not being serviced or assembled.

2.0 Parts Kit List

2.1 No Part Kit required.

3.0 Magnet Acceptance

3.1 Update DSR Keywords (Location [IB2], Location Verified Date & Status [awaiting E&F completion]) and make entry regarding work to be performed.

Lead Person _____ Date 9/19/03

3.2 Verify that the 2 digits of the serial number stamped on the magnet matches the last 2 digits of the serial number at the bottom of this traveler. Record any serial numbers visible on the magnet. Visually inspect magnet for damage. If any out of the ordinary conditions exists notify your supervisor.

Lead Person _____ Date 9-19-03

4.0 Initial Coil/Magnet Inspection

4.1 Perform an Electrical.

| Magnet | Equipment Serial Number | Limit | Actual Measurement | Pass | Fail | Out of Tolerance |
|---|---|---|---|---|---|---|
| Resistance | 32-1005 | 1.5 to 1.8 Ω | 1.67 Ω | ✓ | | |
| LS @ 1 KHz | 84619 | 65 to 75 mH | 69.7 mH | ✓ | | |
| Q @ 1 KHz | | 40-50 | 41.9 | ✓ | | |
| LS @ 100 Hz | | Reference Test Only Not Subject to Limit Values | 70 mH | | | |
| Q @ 100 Hz | | Reference Test Only Not Subject to Limit Values | 24.5 | | | |
| 100 Volt Ring | P60000 | | | ✓ | | |
| Hipot Coil to Core | AB0504 | < 5 μA @ 500 V | < .1 uA | ✓ | | |

D. [illegible]
Inspector

9-19-03
Date

6.0 Production Complete

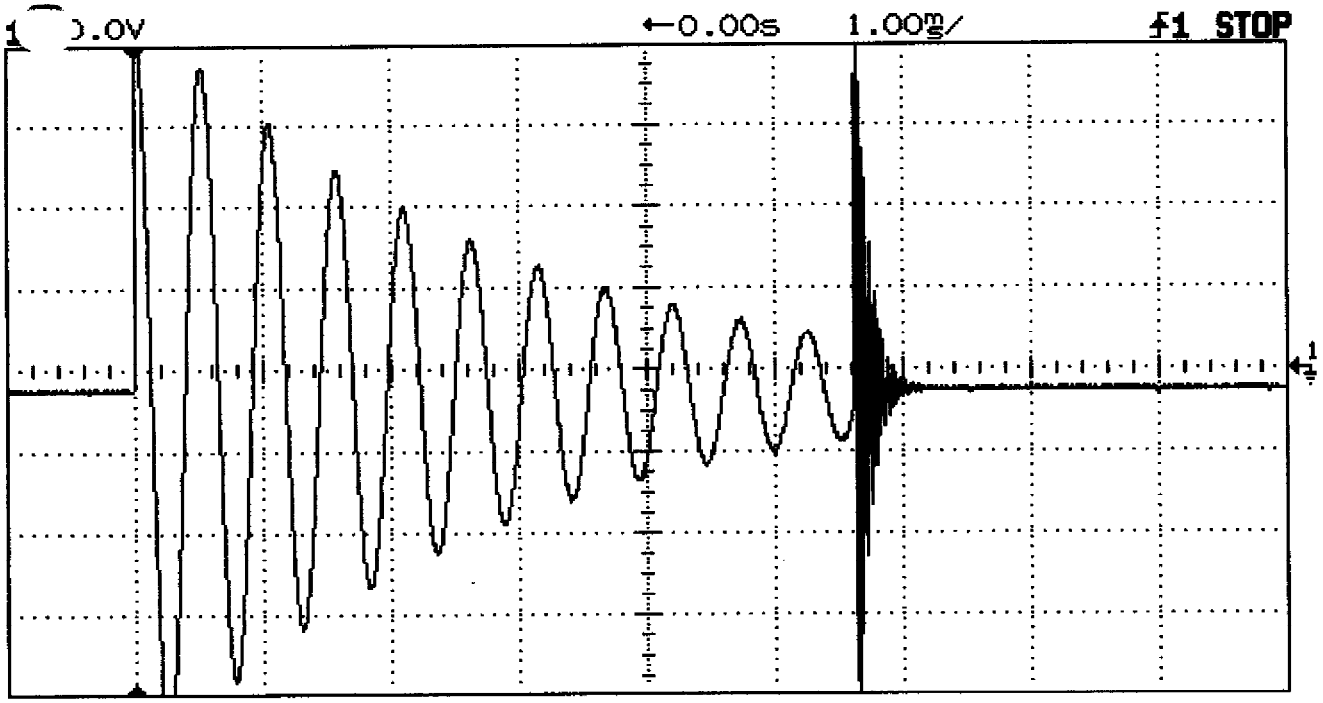
6.1 Process Engineering verify that the Traveler is accurate and complete. This shall include a review of all steps to ensure that all operations have been completed and signed off. Ensure that all Discrepancy Reports, Nonconformance Reports, Repair/Rework Forms, Deviation Index and dispositions have been reviewed by the Responsible Authority for conformance before being approved.

Comments:

Bob [signature] 9/22/03

Process Engineering/Designee Date

14:35:55 Fri Sep 19, 2003




| | State | Volts/Div | Position | Cplg | BW Lim | Inv | Probe |
|---|---|---|---|---|---|---|---|
| Chan 1 | On | 20.00 V | 0.000 V | DC | Off | Off | 10:1 |
| Chan 2 | Off | 100.0mV | 0.000 V | DC | Off | Off | 1:1 |

| | Mode | Main Time/Div | Main Delay | Time Ref | Delayed Time/Div | Delayed Delay |
|---|---|---|---|---|---|---|
| Horizontal | Normal | 1.000ms/ | 0.000 s | Left | -------- | ----- |

| Trigger | Mode | Source | Level | Holdoff | Slope | Couplg | Reject | NoiseRej |
|---|---|---|---|---|---|---|---|---|
| | Normal | Ch 1 | 3.750 V | 200.0ns | Pos | DC | HF | On |

Display Mode: Normal

| | |
|---|---|
| **Traveler** | 333103 RA |
| **Step #** | 4.1 |
| **Magnet Serial Number** | MQTM 1270 |
| **Technician** | D. Gau |
| **Page Count** | 1 of 1 |