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1. Scope:

This document is intended for use by Brookhaven National Laboratory (BNL) personnel who have been assigned the responsibility of inspecting purchased material received for the Magnet Division.

This Magnet Division General Receiving Inspection Procedure is provided to assure that purchased material used in the fabrication or assembly of its products conform to contractual requirements. It serves three types of material:

NOTE: This procedure is intended for the types of material outlined. Not all material received can utilize this procedure (example: laminations, insulators or materials requiring a first article type inspection prior to production). In this case, a separate inspection procedure should be generated.

Category A materials are those of a general nature such as adhesive, lacing cord, cleaning fluid, and mechanical fasteners.

Category B materials are those purchased in quantities from (1) to (1200) with ALL measurement parameters considered critical and are inspected according to a sample plan as discussed.

Category C materials are those purchased in quantities from (1) to (1200) with a select number of critical measurements which are inspected to the sample plan as described. Data Sheet 1 must be completed when Category C is chosen. (See Note at bottom of Data Sheet 1).

All articles delivered to the Magnet Division shall be in complete conformance to their respective engineering drawings, applicable specifications, as well as terms stated in the purchase order.

2. Applicable Documents:

BNL-QA-101 Brookhaven National Laboratory
Seller Quality Assurance Requirements

BNL-QAI-5.1 Instructions for the Completion of the Inspection/Test Record Form (BQF-003).

Manufacturing Resource Planning Operating Plan, Sect. 5.3.

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3. Requirements:

Material that must conform to this specification is to be categorized either as Category A, B or C. All Category B and C material requires sampling and measurement of the product. A sampling table similar to MIL-STD-105 (AQL 1%) is presented to determine the sample size required for inspection prior to acceptance of the entire lot.

All material, whether Category A, B or C, shall receive an Inspection/ Test Record (BQF-003) as outlined in BNL-QAI-5.1 for acceptance or rejection.

In addition to normal recording of inspection results input to the MINX data base system after inspection is required as detailed below.

4. **INSPECTION PROCEDURE FOR CATEGORY A MATERIAL:**

4.1 Obtain the material purchase order and all associated drawings and specifications.

4.2 Verify that the revision level of each drawing and each specification is the same level that is stated on the purchase order.

4.3 Inspect as follows:

4.3.1 Check for shipping damage.

4.3.2 Check that the purchase order requirements, including BNL-QA-101 sections, have been fulfilled.

4.3.3 A) Check for the correct quantity and identity of the item(s), for agreement with the purchase order.

B) If the effectiveness of the material is time dependent, make certain that a reasonable expiration date is indicated for the material.

4.3.4 If no discrepancies are found during the inspection process, indicate acceptance of material and complete the Inspection/Test Record I/TR form (BQF-003).

4.3.5 If a discrepancy is determined, identify the material and record results on the I/TR form.

NOTE: Input the results of the inspection (Sect. 4.3.4 or 4.3.5) into the MINX system. See MRP Operating Plan, Sect. 5.3, Para. 3.0, Subpara. 5a.

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- 4.3.6 Place the rejected material along with the I/TR form in the designated non-conforming material cage.
- 4.3.7 Notify the purchase requisitioner of the non-conforming material.
- 4.3.8 Send one copy of the I/TR to the purchase requisitioner and one to the purchasing department representative.
- 4.3.9 The disposition of the rejected lot of material will be determined at a Material Review Board meeting.

5. **INSPECTION PROCEDURE FOR CATEGORY B MATERIAL:**

- 5.1 Obtain the material purchase order, all associated drawings and specifications.
- 5.2 Verify that the revision level of each drawing and specification is the same level that is stated on the purchase order.
- 5.3 Inspect as follows:
 - 5.3.1 Check for shipping damage.
 - 5.3.2 Check that the purchase order requirements, such as specification quality requirements and BNL-QA-101 sections have been fulfilled.
 - 5.3.3 Check the quantity and identity of the item for agreement with the purchase order.
 - 5.3.4 Select a sample quantity of pieces using Table 1 as a guide.

NOTE: When inspecting less than 100% of a lot, make certain to select a random sample of parts.

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TABLE 1			
Lot or Batch Size	Sample Size	Accept On	Reject On
2 to 8	All	0	1
9 to 15	All	0	1
16 to 25	All	0	1
26 to 50	13	0	1
51 to 90	13	0	1
91 to 150	13	0	1
151 to 280	50	0	1
281 to 500	50	1	2
501 to 1200	80	2	3

- 5.3.5 Check that the sample chosen conforms to the applicable engineering drawing and/or specification.
- 5.3.6 If no discrepancies are found after inspection of the sample quantity the entire lot can be accepted.
- 5.3.7 Using the Inspection/Test Record (BQF-003), indicate the sample as well as the entire lot quantity of material.
- 5.3.8 If discrepancies are found in parts within the sample, the entire lot is to be rejected as indicated in Table I. Record the results on the I/TR.

NOTE: Input the results of the inspection (Sect. 5.3.6 or 5.3.8) into the MINX system. See MRP Operating Plan, Sect. 3, Para. 3.0, Subpara. 5a.

- 5.3.8.1 Place the rejected lot of material in the designated non-conforming material cage.
- 5.3.8.2 Notify the purchase requisitioner of the non-conforming material.
- 5.3.8.3 Send one copy of the Inspection/Test Record to the purchase requisitioner and one to the purchasing department representative.

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5.4 The disposition of the rejected lot of material will be determined at a Material Review Board meeting. If the entire lot of Category B material is rejected as a result of sample size failure, authorization from the Cognizant Engineer/or Division Section Head is required to have the Receiving Inspection Group perform 100% inspection of the lot.

6. **INSPECTION PROCEDURE FOR CATEGORY C MATERIAL:**

6.1 Obtain the material, purchase order and all associated drawings and specifications.

6.2 Verify that the revision level of each drawing and each specification is the same level that is stated on the purchase order.

6.3 Data Sheet 1 of this procedure **MUST** be completed, signed, and be part of the documentation package.

NOTE: A completed Data Sheet 1 must be generated for each purchase order.

6.4 **Inspect as follows:**

6.4.1 Check for shipping damage.

6.4.2 Check that the purchase order requirements, such as specification quality requirements and BNL-QA-101 sections, have been fulfilled.

6.4.3 Check for the correct quantity and identity of the item(s), for agreement with the purchase order.

6.4.4 Select a sample quantity of pieces using Table 1 as a guide.

NOTE: When inspecting less than 100% of a lot, make certain to select a random sample of parts.

6.4.5 Check that the sample chosen conforms with those critical measurements outlined on Data Sheet 1.

6.4.6 If no discrepancies are found after inspection of the sample quantity utilizing Data Sheet 1, the entire lot can be accepted.

6.4.7 Using the Inspection/Test Record (BFQ-003), indicate the sample as well as the entire lot quantity of material.

6.4.8 If discrepancies are found in parts within the sample, the entire lot is to be rejected

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as indicated in Table 1. Record the results on the I/TR.

NOTE: Input the results of the inspection (Sect. 6.4.6 or 6.4.8) into the MINX system. See MRP Operating Plan, Sect. 5.3, Para. 3.0, Subpara. 5a.

- 6.4.9 Place the rejected lot of material in the designated non-conforming material cage.
- 6.4.10 Notify the purchase requisitioner of the non-conforming material.
- 6.4.8 Send one copy of the Inspection Test Record to the purchase requisitioner and one to the purchasing department representative.
- 6.4.9 The disposition of the rejected lot of material will be determined at a Material Review Board meeting. If the entire lot of **Category C** material is rejected as a result of sample size failure, authorization from the Cognizant Engineer **and** Quality Assurance Representative or the Division Section Head is required to have the Receiving Inspection Group perform 100% inspection of the lot.

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Data Sheet 1

General Receiving Inspection
Supplemental Sheet for Category C Material
Critical Measurements

Cognizant Engineer Signature: _____ Date: _____

Marked up Drawing Attached: Yes __ No __ Drawing #: _____

Revision Level: _____

Description of Item: _____

Critical Measurements

Description	Measurement	Tolerance	Remarks

NOTE: A marked drawing may be used in addition to this sheet. If so:

1. Circle each critical measurement and assign a number to it.
2. Add the corresponding number in the Description column above.