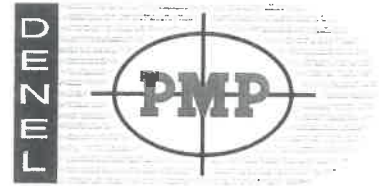


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PRETORIA METAL PRESSINGS

a division of Denel (Pty.) Ltd

BUYING SPECIFICATION FOR BOX 8217 ASSEMBLY, PLASTIC.

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1. SCOPE

- 1.1 This specification details the requirements for the tender, manufacture and acceptance of box 8217 assembly, plastic.

2. APPLICABLE DOCUMENTS

- | | | |
|------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 2.1 | MIL-STD-105: | Sampling procedures and tables for inspection by attributes. |
| 2.2 | MIL-STD-810C | Environmental test methods. |
| 2.3 | BS 381C: | Colours for Specific Purposes. |
| 2.4 | 03-8115-3105-00001: | Drawing for body, box 8217. |
| 2.5 | 03-8115-3105-00002: | Drawing for lid, box 8217. |
| 2.6 | 03-8115-2745-00003: | Drawing for latch, box 7716. |
| 2.7 | 01-8115-3105-99001: | Identification marking for box 8217. |
| 2.8 | SABS ISO 9001:2000: | Quality Management Systems. |
| 2.9 | ASTM D 2565/79: | Xenon ARC type light exposure of plastics. |
| 2.10 | The United Nations Recommendations on the Transport of Dangerous Goods - Model Regulations. | |

3. FORMAT AND DIMENSIONS

The dimensions shall be in accordance with drawing 03-8115-3105-00001, 03-8115-3105-00002 and 03-8115-2745-00003. The box, lid and latch shall be assembled into one complete unit. The different components shall be completely interchangeable. The box must carry a load of 42⁺¹kg, evenly distributed.

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4. PHYSICAL PROPERTIES AND TESTS

4.1 Material

Body and lid: A composite of HDPE
(48,75% GC7260 + 48,75% GD7255 + 2,5% JP1992/UV Master Batch)
Latch: Nylon (99% Plastomet PA66 natural + 1% JP1992/UV Master Batch).
Note: Directly after the latch is removed from the mould, it shall be placed in water at a temperature of +60°C and kept at that temperature for 24 hours to be cured.

4.2 Colour

The colour shall be Service Brown, tint 499 ± 10% as specified in BS 381C.

4.3 Marking

The marking shall be in accordance with drawing 01-8115-3105-99001.

4.4 Environmental conditions

4.4.1 Drop resistance

Five boxes, fully laden to the mass in paragraph three, shall be conditioned to at least -18°C for six hours and then dropped from a height of 1,2 metres onto a solid concrete floor in the following manner. The centre of gravity shall be vertically over the point of impact except for flat drops. Where more than one orientation is possible for any given drop, the orientation most likely to result in failure must be used. The contents of any box shall not spill.

First sample:	Once flat on the bottom and once on top corner.
Second sample:	Flat on the top.
Third sample:	Flat on the long side.
Fourth sample:	Flat on the short side.
Fifth sample:	On the bottom corner.

4.4.2 Resistance to Ultra Violet Irradiation

The UV additive to the master batch shall be sufficient to ensure one year outdoor service in South African conditions.

Testing shall be in accordance with ASTM D 2565/79

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4.4.3 Resistance to stress cracking (a Teepol test)

Take two boxes and lids and submerge completely in a detergent based on GD 53, 2% active ingredient solution for twenty-four hours at $80^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The boxes and lids shall be rejected if stress cracking, deeper than 1mm or right through, occurred. Only superficial surface cracks shall be allowed.

4.4.4 Transport vibration

This test is based on MIL-STD-810C Method 514.2, Category G, Procedure XI, Table 514.2-VII, Figure 514.2-7.

One box, fully laden to the mass specified in paragraph three and sealed with sealing wire, shall withstand the rigours of road and off-road transportation without being damaged to the extent that it is unserviceable or so that the contents are damaged.

4.4.5 Vertical stacking

Place two empty boxes, at ambient temperature, on top of each other and cover with a steel plate that is 6mm thick and extends beyond the length and width of the box. Measure the height of steel plate. Load the steel plate with a mass of 750kg and leave for twenty-four hours. Measure the deflection. Release the load and measure recovery. The distortion of the box shall not be such that the contents become unserviceable or the recovery is below 90%.

This test must also be performed with two boxes which are conditioned at $+60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and kept at that temperature for the duration of the test.

4.4.6 Strength of the handles

The handle shall not break when the fully laden box is dropped from a height of 150mm and the handle is arrested by a hand-shaped hook. Both handles of two boxes shall be tested.

4.5 Workmanship

The requirements for workmanship are as follows:

4.5.1 Manufacturing defects

The box, lid and latch shall conform dimensionally to the applicable drawings and shall be free of moulding defects and internal defects that will be detrimental to the final product. The clips shall function and slide with relative ease.

4.5.2 Visual defects

The alignment of sealing holes shall be in accordance with drawing 03-8115-3105-00001 and 03-8115-3105-00002. The box and lid shall be free of mould release.

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5. QUALITY ASSURANCE PROVISIONS

5.1 Responsibility for inspection

The responsibility for performing all the verification tests and inspections shall be that of the manufacturer. The purchaser or his representative reserves the right of inspection of Laboratory Certificates as well as Production Quality Control Certificates of raw materials and components used for the manufacture of the applicable consignment of boxes.

The supplier shall implement a Quality Management system based on ISO 9001 to assure the quality of the product. The purchaser reserves the right to audit the supplier's production facilities at all times to ensure that quality requirements are met.

5.2 Qualification

Before commencement of a contract by a new supplier, the supplier shall arrange with the purchaser for prototypes to be subjected to the following tests:

Criteria	Verification
Material	Material certificates
Dimensions (All)	Two in accordance with drawing 03-8115-3105-00001, 03-8115-3105-00002 and 03-8115-2745-00003
Colour and marking	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Drop resistance	Five in accordance with paragraph 4.4.1
UV resistance	One in accordance with paragraph 4.4.2
Stress cracking	Two in accordance with paragraph 4.4.3
Transport vibration	One in accordance with paragraph 4.4.4
Vertical stacking	Four (two sets) in accordance with paragraph 4.4.5
Handle strength	Two in accordance with paragraph 4.4.6
Mould defects	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Presence of drainage holes	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Functioning(latches, lid on box, etc.)	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5

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5.3

Quality Conformance Inspection

5.3.1

Lot identification

The box assembly shall be supplied in lots, where a lot is defined as the identifiable quantity of material produced by one manufacturer in one unchanged process, using the same materials and methods in accordance with the same specification. The supplier shall ensure that all deliveries are fully traceable by lot number and that identification records are supplied to the purchaser to match lot numbers with inspection records.

5.3.2

Production acceptance

The boxes shall be inspected for the following criteria

Criteria	Verification
Material	Material certificates
Colour, marking and dimensions	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Stress cracking	Two in accordance with paragraph 4.4.3
Nesting ability - note 1	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Presence of draining holes	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Mould defects	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5
Functioning(latches, lid on box)	MIL-STD-105E, Single Normal, Special Inspection Level S3, AQL 1.5

Note 1. Box bottoms must nest into lids of boxes below them when stacked.

The purchaser may take samples of any reasonable size from any portion of the lot and if, on examination, any sample is found not to conform to this specification the whole consignment may be rejected.

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6. DOCUMENTATION

The following documents must be forwarded with each consignment of boxes:

- 6.1 The original standard buying specification that accompanied order in the case of a single consignment or the final consignment of staggered deliveries.
- 6.2 A certificate of compliance / analysis stating that the bodies, lids and latches meet the requirements of this specification and have been subject to planned close control of all supply and manufacturing activities. This certificate shall address the following:
- Dimensions
 - Colour
 - Material certificates
 - Stress crack test results
 - Presence and position of drainage holes
 - Functioning of the latch. The fitment of lid and body.
 - Mould defects.
 - Nesting ability.

7. PACKING

The bodies, lids and clips shall be supplied as complete boxes.

8. NOTES

- 8.1 *If the supplier of the boxes is not the original manufacturer, the full name and address of the original manufacturer must be supplied in writing with submission of the tender.*
- 8.2 This specification is based on KA 3157

AMENDMENT HISTORY

Issue	Details	Job no.	Done by	Date
Three	Type in new format.	03/E003/03SA	H B	19/02/2003

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