



# CORPORATE STANDARD

AA7151115

Rev. No. 08

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## NUTS, HEXAGON, PRODUCT GRADE 'A' COARSE PITCH, STEEL PROPERTY CLASS 8 (M1.6 - M16)

### 1.0 DESIGNATION

A product Gr.A, hexagon, Steel, nut thread M10, coarse pitch and conforming to property class 8 shall be designated as:

#### 1.1 On drawings

- i) Material specification column : AA7151115
- ii) Description column : NUT HEX A M10 – 8

#### 1.2 On indents

Nut Hex A M10 – 8; AA7151115

#### 1.3 For issuing enquiries and on purchase orders

While issuing enquiries and purchase orders, delete BHEL standard number from the above description and add the information given under clause 2.0

### 2.0 COMPLIANCE WITH STANDARDS

#### 2.1 Dimensions, Tolerances & General Requirements

As per IS: 1364, Part 3-2002, Reaffirmed 2007

#### 2.2 Mechanical Properties

To conform to property class 8 as specified in Table-5 & 6 of IS: 1367, Part 6, Permissible Hardness 188 to 330 HB for sizes M3 to M10

#### 2.3 Threads

- Pitch - Coarse to IS: 4218, Part 2
- Tolerance quality - Medium
- Tolerance class - 6H

#### 2.4 Identification Marking

As stated in clause 9 of IS: 1367, Part 6

#### 2.5 Surface Discontinuity

As per IS: 1367, Part 9

#### 2.6 Finish

As specified in BHEL order.

Revisions:  
As per Clause 32.4.6 of MOM of MRC-F

**APPROVED:**  
INTERPLANT MATERIAL RATIONALISATION  
COMMITTEE – MRC (F)

|                |          |            |                |           |                              |
|----------------|----------|------------|----------------|-----------|------------------------------|
| Rev. No. 08    | Amd. No. | Reaffirmed | Prepared       | Issued    | Dt. of 1 <sup>st</sup> Issue |
| Dt: 06-09-2014 | Dt:      | Year:      | HEEP, Haridwar | Corp. R&D | 01-01-1977                   |

**3.0 NOTE**

- 3.1** For nuts, hexagon, product Gr.A, coarse pitch, brass (M1.6 - M16) refer to BHEL standard AA7151113
- 3.2** For screw threads, general (Metric) refer to BHEL standard AA0231800
- 3.3** For tolerance grade, position and class refer to BHEL standard AA0230201
- 3.4** Nuts to this standard would be unplated, divisions wishing to have plated nuts would have to get them plated.
- 3.5** Weights given in this standard are for general reference only and are not for commercial transactions.
- 3.6** When fasteners are to be tested with in BHEL, the sampling and acceptance plan shall be as per IS: 1367, Part 17

**4.0 REFERRED STANDARDS (Latest Publications including Amendments)**

- 1) IS: 1367, Part 6, 9 & 17
- 2) IS: 4218, Part 2
- 3) AA0230201
- 4) AA0231800
- 5) AA7151113

**EXPLANATORY NOTE**

The following major changes have been made in the present revision

- Clause 2.1: "Reaffirmation 2007" has been added at end of the clause.
- Clause 2.2: The "Part 6-1994" has been modified as "Part 6"
- Clause 3.6: "Sampling Plan" has been modified in accordance with IS: 1367, Part 17
- Clause 4 has been modified accordingly.
- On Page-3: Table-1: The dimension of "Wrenching height" m' has been corrected from 2.32 to 2.3 for thread size M4 in accordance with IS: 1364, Part 3-2002, Reaffirmed 2007
- On Page-3: Table-1 & Fig.-1 have been modified and made more visible.

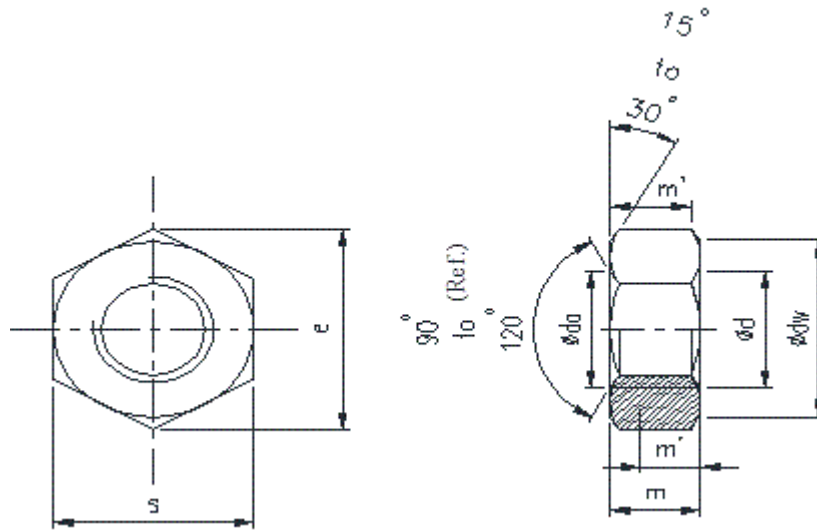


Table – 1

All dimensions in mm

| Thread Size | Flats |       | Corners | Thickness |       | Wrenching Height |      |      |      | Sub-Code | Weight |
|-------------|-------|-------|---------|-----------|-------|------------------|------|------|------|----------|--------|
|             | s     |       |         | e         | m     |                  | m'   | dw   | da   |          |        |
| Nom.        | Max.  | Min.  | Min.    | Max.      | Min.  | Min.             | Min. | Min. | Max. |          |        |
| M1.6        | 3.2   | 3.02  | 3.41    | 1.3       | 1.05  | 0.8              | 2.4  | 1.6  | 1.84 | 091      |        |
| M2          | 4.0   | 3.82  | 4.32    | 1.6       | 1.35  | 1.1              | 3.1  | 2.0  | 2.3  | 105      |        |
| M2.5        | 5.0   | 4.82  | 5.45    | 2.0       | 1.75  | 1.4              | 4.1  | 2.5  | 2.9  | 113      |        |
| M3          | 5.5   | 5.32  | 6.01    | 2.40      | 2.15  | 1.7              | 4.6  | 3.0  | 3.45 | 067      | 0.39   |
| M4          | 7.0   | 6.78  | 7.66    | 3.2       | 2.90  | 2.3              | 5.90 | 4.0  | 4.6  | 075      | 0.82   |
| M5          | 8.0   | 7.78  | 8.79    | 4.7       | 4.40  | 3.5              | 6.90 | 5.0  | 5.75 | 083      | 1.24   |
| M6          | 10.0  | 9.78  | 11.05   | 5.20      | 4.90  | 3.9              | 8.90 | 6.0  | 6.75 | 016      | 2.52   |
| M8          | 13.0  | 12.73 | 14.38   | 6.8       | 6.44  | 5.2              | 11.6 | 8.0  | 8.75 | 024      | 5.40   |
| M10         | 16.0  | 15.73 | 17.77   | 8.4       | 8.04  | 6.4              | 14.6 | 10.0 | 10.8 | 032      | 11.69  |
| M12         | 18.0  | 17.73 | 20.03   | 10.8      | 10.37 | 8.30             | 16.6 | 12.0 | 13.0 | 040      | 17.69  |
| M16         | 24.0  | 23.67 | 26.75   | 14.8      | 14.1  | 11.3             | 22.5 | 16.0 | 17.3 | 059      | 33.58  |