| NAVISTAR, INC. | | | |
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| **Material, Parts, and Process Specifications (MPAPS)** | | *NUMBER:* **MPAPS S-EM-39.101-GS/PL** | |
| | | *Former Designation:* **ESP-EM-39.101-GS** | |
| *TITLE:* **Tab Weld Nuts –Metric Series** | | *CURRENT REV No.:* **1506** | *DATE:* **June 2015** |
| *WRITTEN/EDITED BY:* **Materials Engineering** | *APPROVED BY:* **Materials Engineering** | *SUPERSEDES:* **ESP-EM-39.101-GS - September 2000** | |

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***This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.***

*Change Notice:* **Changed to New MPAPS format; Combined GS, GI, PP.**

**1.0 GENERAL:** Implementation of this standard must be in accordance with the policies and procedures outlined in MPAPS S-A-0.101. There may also be supplemental group instructions in regard to use of metric standards that should be taken into account.

The sizes and tolerance ranges used were established in an effort to enable the use of commercially available items, dimensionally interchangeable, worldwide.

This specification contains dimensions and tolerances as supplied by vendors.

Inch dimensioned standard tab weld nuts may be found in MPAPS S-E-39.101-GS/PL.

**2.0 RESTRICTED CHEMICAL SUBSTANCES:** Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

**3.0 DESIGN CONSIDERATION:** Coarse thread series only will be considered as part of this standard, because of the following advantages:

Less tendency to cross thread.
Resists nicking and has less stress concentration at the thread roots.
Less likely to be seriously affected by decarburization and oversize minor diameter of internal threads.

**4.0 METRIC-INCH RELATED SIZES:** During the inch to metric design transition period, the following chart of related sizes can be used for reference. This information is not to be considered as a recommendation for substitutions but only as a means of determining approximate dimensional equivalents.

| Metric Series mm | Approximate Inch Series |
|---|---|
| 3.5 | #5 |
| 4 | #6, #8 |
| 5 | #10 |
| 6 | 1/4 |
| 8 | 5/16 |
| 10 | 3/8, 7/16 |

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**5.0 THREAD:** The ISO basic profile is essentially the same geometric configuration as the unified screw thread basic form. The threads will be coarse series, tolerance class 6g(Ext).

**6.0 THREAD TOLERANCES:** The ISO medium class of fit 6H(Int)/6g(Ext) is approximately the same as the 2A(Ext)/2B(Int) allowance in the U.S. unified thread series for comparable size. For example:

| Thread | Allowance |
|---|---|
| M10 x 1.5 - 6H(Int)/6g(Ext) | 0.032 mm (.00126 in) |
| 3/8-16 UNC 2A(Ext)/2B(Int) | .0013 in (0.033 mm) |

**7.0 METHOD OF DESIGNATION:** Tab weld nuts will be designated by size, style, word description, material and part number as shown:

M6, Style 4M, Tab Weld Nut, Steel, Part Number.

The absence of a specification for pitch indicates that coarse thread is required; e.g., a coarse thread of the dimensions M6 x 1 is designated as "M6."

**8.0 MATERIAL:** Steel (STL), low carbon, AISI 1008 or 1010 or equivalent.

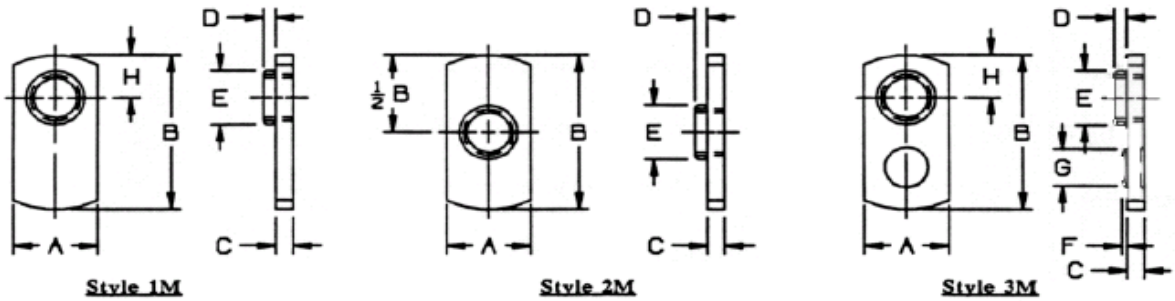
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|---|---|
| Tensile Strength: | 415 MPa |
| Yield Point: | 207 MPa |
| Shear Strength: | 207 MPa |
| Elongation: | 50.8 mm - 30% max. |

**9.0 FINISH:** Copper (COP). A flash deposit to provide-corrosion resistance during shipment and temporary storage.

**10.0 THREADS:** Thread form diameters and associated pitches are in accordance with ISO recommendations. Threads will be made to the tolerances for the medium class of fit (6H - internal threads) as shown in ISO 965/II, General Purpose Metric Screw Threads.

**11.0 COLOR CODING:** Not recommended, except in cases where adequate insurance is needed to prevent mixing of "metric parts" with look-alike "inch parts." The color blue is standard identifier used in some industries. This must be handled internally at individual plants where needed and is meant to be supplemental to the normal finish and easily deleted when the need for supplemental identification no longer exists. The supplemental blue color should not be used on material such as stainless steel which is specified for cosmetic purposes, or phosphate coating which may cause a loss of color identity.

**12.0 DIMENSIONS OF DIFFERENT STYLES:**




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