

WORLDWIDE FASTENER STANDARD

Date: 2001-01-10

WE 910 DIMENSIONAL REQUIREMENTS FOR HEXAGON AND FLANGED HEXAGON NUTS

1. SCOPE

This standard gives the general and dimensional requirements for hexagon (M4 - M24), flanged hexagon (M5 - M20), and hexagon thin nuts (M4 - M24).

NOTE: The dimensions specified in Table 1 are not suitable for property classes 9 and 12. The requirements for Nut and Washer Assemblies are specified in WE 901.

2. REFERENCES

- ISO 261 - General purpose metric screw threads - General plan.
- ISO 965 - General purpose metric screw threads - Tolerances.
- ISO 1502 - General purpose metric screw threads - Gauging.
- ISO 1302 - Technical drawings - method of indicating surface roughness.
- ISO 4288 - Rules and procedures for the measurement of surface roughness parameters using stylus instruments.
- WE 901 - General requirements for nut and washer assemblies.
- WX 100 - Finish Specification

3. GENERAL REQUIREMENTS

3.1 DIMENSIONS AND TOLERANCES

The dimensions and tolerances of hexagon, flanged hexagon, and hexagon thin nuts must be in accordance with Clauses 1 - 6, Tables 1 - 4, and Figures 1 - 3.

3.2 GAUGING (REFEREE METHOD)

For referee purposes, dimensions e , T_a , m' and c are satisfied if flanged hexagon nuts meet the requirements for gauging specified in the Appendix.

4. SCREW THREADS

4.1 DIMENSIONS AND TOLERANCES

Screw threads must conform to the dimensions and tolerances specified in ISO 261 and ISO 965 thread tolerance class 6H.

4.2 GAUGING

Nuts shall assemble on a GO thread plug gauge. The gauge must conform to the dimensions and tolerances defined in ISO 1502 appropriate to the specified thread size and class of fit.

When coated with organic type coatings tightness to inspection gauges may be experienced, see WX 100.

5. FORM AND POSITION TOLERANCES

5.1 CONCENTRICITY OF HEXAGON TO THREAD

The concentricity of the outside diameter of the flanged portion to the thread shall be within the values specified in Table 4.

5.2 CONCENTRICITY OF FLANGED PORTION TO THREAD

The concentricity of the outside diameter of the flanged portion to the thread shall be within the values specified in Table 4.

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5.3 SQUARENESS OF THE BEARING SURFACE TO THE THREAD

5.3.1 HEXAGON NUTS

Both bearing surfaces shall be flat and perpendicular to the axis of the thread within 1° .

5.3.2 HEXAGON FLANGED NUTS

The bearing surface shall be flat to concave to a maximum of 1.5° from the plane formed by the bearing circle diameter (d_w). The plane formed by the bearing circle diameter shall be perpendicular to the thread within 1° .

5.4 PARALLELISM OF HEXAGON FLATS TO THREAD

The hexagon flats (measured over the minimum wrenching height m' for hexagon nuts or T_a for hexagon flanged nuts) must be parallel to the thread within $0.17 \times m'$ for hexagon nuts or $0.17 \times T_a$ for hexagon flanged nuts.

NOTE: All form and position tolerances may be evaluated by use of a GO screw plug gauge to ISO 1502 thread tolerance class 6g.

5.5 SURFACE ROUGHNESS

The surface roughness of the bearing face should be evaluated in accordance with ISO 4288.