1. SCOPE

The fasteners defined by this specification are metric hex flange nut both all metal and with a non-metallic Prevailing Torque with coarse threads.

This specification contains elements of standards: ISO 7043, ISO 7044.

This standard may differ in some respects with certain segments of ISO and national standards. In recognition of these possible differences, the sizes and tolerance ranges used were established in an effort to enable the use of commercially available items, dimensionally interchangeable worldwide.

When a standard is referenced in a drawing or specification, it is understood that the reference is to the latest revision of the standard, unless stated otherwise.

2. GENERAL

Prevailing torque type is a nut which is frictionally resistant to rotation due to a self-contained prevailing torque feature, and not because of a compressive load developed against the bearing surface of the nut.

Prevailing torque is the torque necessary to rotate the nut on its mating externally threaded component, with the torque being measured while the nut is in motion, and with no axial load in the mating component.

Prevailing torque nuts covered by this standard are all metal, one-piece construction nuts which derive their prevailing torque characteristics from controlled distortion of the nut thread and/or body on the upper portion or dome of the nut or through the addition of a non-metallic element.

3. PART DESCRIPTION

Typical part description for CAD drawings and BOM's entered by Standards.

NUT, FLANGE, M6 P/T NON-DIR ALL MTL 8 PL

For cross-reference listing of company part numbers, go to CNH Catalogue.

4. RELATED DOCUMENTS

4.1 REFERENCE STANDARDS

CNH STPA020—Fastener Finishes and Material Specifications
CNH MAT0310—Zinc Plating
Fiat 10118 - Self-Locking Elastic Flange Hex Nuts
ISO 6157-2 —Surface Discontinuities- Part: Nuts
ISO 898/2—Mechanical Properties of Nuts with Specified Proof Load Values - Coarse Thread
ISO 2320—Prevailing Torque Steel Hex Nuts - Mechanical and Performance Properties.
ISO 7043—Prevailing Torque Type Hex Nuts with Flange (with non-metallic insert)
ISO 7044—Prevailing Torque Type All-Metal Hex Nuts with Flange
ANSI B18.16M—Prevailing-Torque Type Steel Metric Hex Nuts and Hex Flange Nuts
FIAT 10124—Prevailing Torque Nuts with Non Metallic Collar – Flanged Type
FIAT 10127—Distorted – Thread, Prevailing Torque Hexagon Flanged Nuts

4.2 REPLACED STANDARDS

Case EM-030—Hex Nuts Prevailing Torque General Specification
Case EM-035—Hex Flange Nuts – Prevailing Torque All Metal - Preferred

5. REQUIREMENTS

5.1 MATERIAL

Material as designated by part number per CNH STPA020. Material properties: steel, ISO Classes, 5, 8 and 10, in accordance with ISO 2320. Stainless Steel A2 per ISO 3506-2.

5.2 PREFERRED PARTS POLICY

Preferred parts are so designated to reduce variety of parts and assure maximum availability and cost savings:

Nominal Sizes: M6, 8, 10, 12, 16, 20, 24, 30, 36
Material: Class 10
Finish: Phosphate Coated (PHC)

5.3 MECHANICAL DIMENSIONS

All dimensions in this standard are in millimetres. All unspecified detail must conform to standards listed above.

5.4 SURFACE DISCONTINUITIES

All products under this specification shall be free from burrs, seams, laps, loose scale, irregular surfaces and any defects affecting their serviceability.

5.5 THREADS

Threads prior to introduction of the prevailing-torque feature shall be standard (coarse) pitch ISO metric screw threads, tolerance class 6H.

5.6 MARKING

Nuts of thread diameters of 5 mm and larger and property classes equal to or higher than 8 shall be marked with the property class designation symbol per ISO 898/2.

5.7 MECHANICAL AND PERFORMANCE REQUIREMENTS

Nuts covered by this standard shall meet mechanical and performance requirement as specified in one or more of the following standards: ISO 2320, ANSI B18.16M

5.8 LUBRICATION

All locknuts shall be provided with an additional supplementary lubricant which shall be clean and dry to the touch.

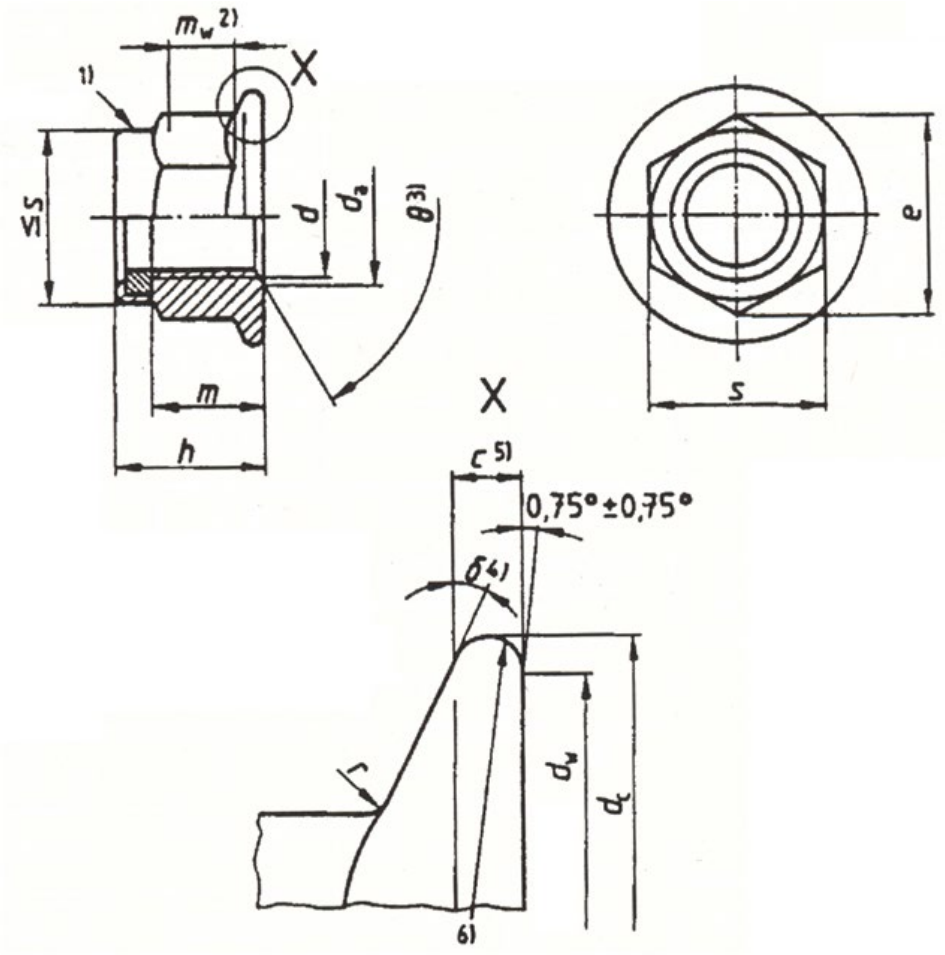


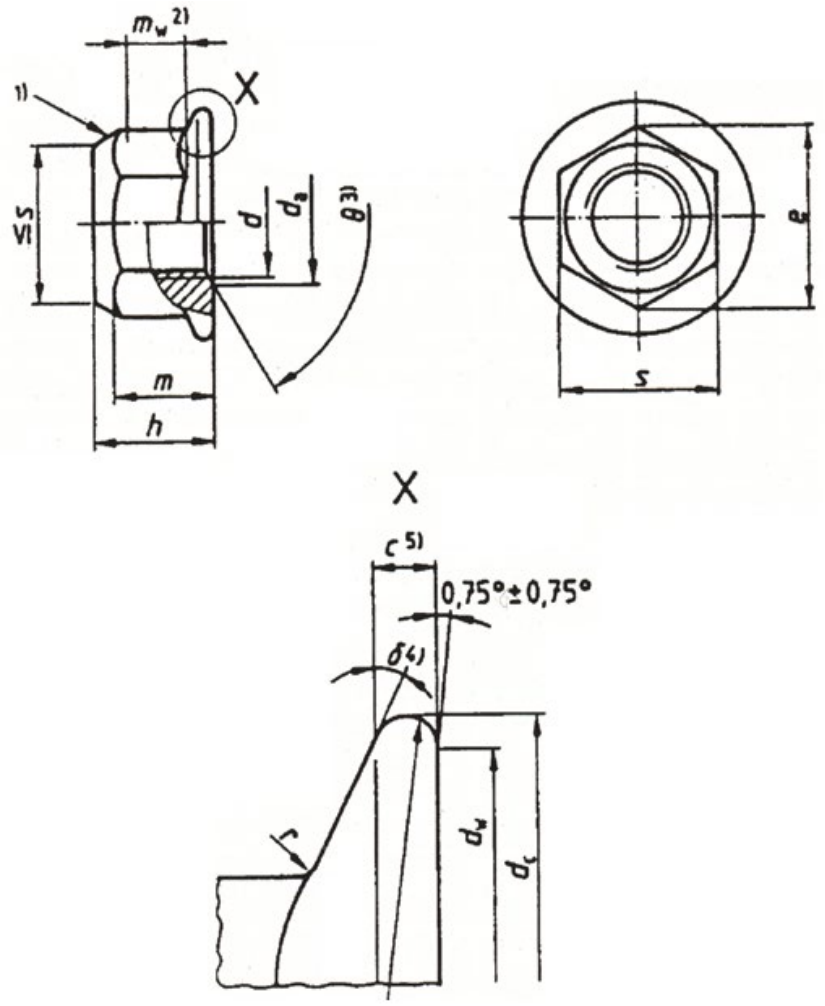
Table 1: Prevailing Torque Hex Nuts with Flange (with Non-Metallic Insert) ISO 7043

Nom. Size	Pitch	c	s		e	dc	dw	h		m	m_w
			Width Across Flats		Width Across Corners	Flange Diameter		Thickness		Thickness	Wrench Height
		min	Max.	Min.	Min.	Max.	Min.	Max.	Min.	Min.	Min.
M5	.8	1	8	7.78	8.79	11.8	9.8	7.1	6.52	4.7	2.5
M6	1.0	1.1	10	9.78	11.05	14.2	12.2	9.1	8.52	5.7	3.1
M8	1.25	1.2	13	12.73	14.38	17.9	15.8	11.1	10.4	7.64	4.6
M10	1.5	1.5	15	14.73	16.64	21.8	19.6	13.5	12.8	9.64	5.6
M12	1.75	1.8	18	17.73	20.03	26.0	23.8	16.1	15.4	11.57	6.8
M14	2.0	2.1	21	20.67	23.36	29.9	27.6	18.2	16.9	13.3	7.7
M16	2.0	2.4	24	23.67	26.75	34.5	31.9	20.3	19.0	15.3	8.9
M20	2.5	3	30	29.16	32.95	42.8	39.9	24.8	22.7	18.7	10.7

Table 1: Prevailing Torque Hex Nuts with Flange (with Non-Metallic Insert) Cont'd

Nominal Size	Pitch	Material	Nut Finish					
			PHC	PLN	BZN	DAC	DOR	ZND
M5*	0.8	8			12578017			12578015
M6	1.0	10						47661417
M8	1.25	10				90403056		87383746
M10	1.5	10						48091904
M12	1.75	10						48102914

***** Per FIAT 10124



1) Prevailing torque element, Shape Optional
2) c is measured at dw,min

Table 2: Prevailing Torque Hex Flange Nut –All Metal – ISO 7044

Nom. Size	Pitch	c	s		e		dc	dw	h		m	m_w
			Width Across Flats		Width Across Corners		Flange Diameter		Thickness		Thickness	Wrench Height
		min	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Min.
M5	.8	1	8	7.78	9.24	8.79	11.8	9.8	6.2	5.7	4.7	2.5
M6	1.0	1.1	10	9.78	11.55	11.05	14.2	12.2	7.3	6.8	5.7	3.1
M8	1.25	1.2	13	12.73	15.01	14.38	17.9	15.8	9.4	8.74	7.64	4.6
M10	1.5	1.5	15	14.73	17.32	16.64	21.8	19.6	11.4	10.34	9.64	5.6
M12	1.75	1.8	18	17.73	20.78	20.03	26.0	23.8	13.8	12.57	11.57	6.8
M14	2.0	2.1	21	20.67	24.25	23.36	29.9	27.6	15.9	14.8	13.3	7.7
M16	2.0	2.4	24	23.67	27.71	26.75	34.5	31.9	18.3	17.2	15.3	8.9
M20	2.5	3	30	29.16	34.64	32.95	42.8	39.9	22.4	20.3	18.7	10.7

Table 2: Prevailing Torque Hex Flange Nut –All Metal (Cont'd)
ISO 7044

Nominal Size	Material	Finish	Part Number
M6	8	PLN	87493304
M6	8	ZND	86619800
M6	8	DAC	90391777
M6	8	BGM	90407664
M6	10	ZND	87301498
M8	8	ZND	86619801
M8	8	BGM	90510394
M8	10	DAC	90349743
M8	10	DOR	86981466
M8	10	ZND	87681210
M10	8	DAC	90349747
M10	8	ZND	86619802
M10	10	DAC	90349744
M10	10	DOR	86981467
M10	10	ZND	87547587
M10	A2	PLN	92227925
M12	8	ZND	86619803
M12	10	DAC	90349748
M12	10	DOR	86981468
M12	10	ZND	87681209
M16	8	DAC	90349749
M16	8	ZND	86619804
M16	10	DOR	86981469
M16	10	ZND	87016581
M20	8	ZND	86619805
M20	10	ZND	48112832