

Non-Pre Load Bolt Assemblies as EN 15048-1&2

Hexagon Nut & Washer

BS EN 15048 Nut ISO 4032/4034, Classes 8 & 10

Normal Size and Thread Diameter <i>d</i>	Pitch of Thread <i>P</i>	Width Across Flats <i>S</i>		Width Across Corner <i>s</i> <i>E</i>	Thickness of Nut <i>m</i>	
		max	min	min	max	min
M12	1.75	18.00	17.57	21.10	12.20	10.40
M16	2.00	24.00	23.16	26.75	15.90	14.10
M20	2.50	30.00	29.16	32.95	19.00	16.90
M24	3.00	36.00	35.00	39.55	22.30	20.20
M30	3.50	46.00	45.00	50.85	26.40	24.50
M36	4.00	55.00	53.80	60.79	31.90	29.40

BS EN 15048 Nut ISO 4032/4034, Proof Loads, Classes 8 & 10

Nut Thread <i>Diad</i>	Stress Area Test Mandrel	Property Class	
		8	10
		Tolerance Class 6H (1)	Tolerance Class 6AZ(2)
mm ²		Proof Load kN	Proof Load kN
M12	84.30	67.0	78.10
M16	157.0	125.0	150.0
M20	245.0	196.0	236.0
M24	353.0	282.0	342.0
M30	561.0	448.0	551.0
M36	817.0	653.0	808.0

6H (1) is the tolerance class for self color & zinc plated nuts.
6AZ(2) is the tolerance class for hot dip galvanized nuts

BS EN 15048 Washer ISO 7091 (100 HV Min)

Normal Size and Thread Diameter <i>d</i>	ISO 7091- 2000					
	Inside Diameter <i>d</i> ₁		Outside Diameter <i>d</i> ₂		Thickness <i>s</i>	
	max	min	max	min	max	min
M12	13.93	13.50	24.00	22.70	2.80	2.20
M16	17.93	17.50	30.00	28.70	3.60	2.40
M20	22.52	22.00	37.00	35.40	3.60	2.40
M24	26.52	26.00	44.00	42.40	4.60	3.40
M30	33.62	33.00	56.00	54.10	4.60	3.40
M36	40.00	39.00	66.00	64.10	6.00	4.00

Product Characteristics	Standard	
Hexagon Full Nuts		
General Requirement	ISO 4032 & 4034	
Material & Manufacturer	ISO 4032 & 4034 Classes 8 & 10	
Finish Coating	Zinc Electroplated	BS 7371-3 OR BS EN ISO 4032
	Hot Dip Galvanized	BS 7371-6 OR BS EN ISO 10684
Mechanical Properties	Self Colour / Zinc Electroplated	ISO 4032 & 4034 Class 8
	Hot Dip Galvanized	ISO 4032 & 4034 Class 10
Dimensions & Tolerances	ISO 4032 & 4034	
Threads	Self Colour / Zinc Electroplated	ISO 965-2 Class 6H
	Hot Dip Galvanized	ISO 965-2 Class 6AZ

Product Characteristics	Standard	
Washer		
General Requirement	ISO 7089/7091-2000	
Material & Manufacturer	ISO 7089/7091-2000	
Finish /Coating	Zinc Electroplated	BS 7371/3 or BS EN 442
	Hot Dip Galvanized	BS 7371-6 or BS EN ISO 10684
Dimensions & Tolerance	ISO 7091-2000	

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