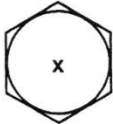


	DOCUMENTOS	D. N°xxxx	FEJUCY NXXYY
	TABLA DE MARCAS DE CABEZA DE PERNO Y TUERCA	REVISIÓN	2
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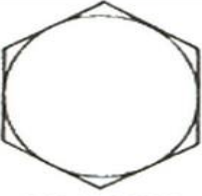
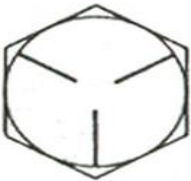





## MARCAS DE CABEZA SEGÚN NORMA Y CARACTERISTICAS MECANICAS

ASTM Bolt Standard	ASTM Bolt Grade Markings
ASTM A193	B5, B6, B6X, B7, <u>B7M</u> , B8, B8M, B8P, B8LN, B8MLN, B8C, B8T, B8A, B8CA, B8MA, B8PA, B8TA, B8LNA, B8MLNA, B8NA, B8MNA, B8MLCuNA, B8N, B8MLCuN, B8R, B8RA, B8S, B8SA, B94, B95, B96, B97, B98, B99, B100, B101, B102, <u>B8SH</u> , <u>B8CSH</u> , <u>B8PSH</u> , <u>N8TSH</u> , <u>B8NSH</u> , <u>B8MSH</u> , <u>B8YSH</u> , <u>B8JSH</u> , <u>B9M2</u> , <u>B9M3</u> , B16, B16R
ASTM A307	307 A, 307 B
ASTM A320	L1, L7, L7A, L7B, L7C, <u>L7M</u> , L70, L770, L772, L73, L43
ASTM A325	A325, <u>A325</u>
ASTM A354	BC, BD
ASTM A449	A449, <u>A449</u>
ASTM A490	A490, <u>A490</u>
ASTM A593	F593A, F593B, F593C, F593D, F593E, F593F, F593G, F593H, F593J, F593K, F593L, F593M, F593X, F593N, F593V, F593W, F593P, F593R, F593S, F593T, F592U, <u>F593A</u> , <u>F593B</u> , <u>F593C</u> , <u>F593D</u> , <u>F593E</u> , <u>F593F</u> , <u>F593G</u> , <u>F593H</u> , <u>F593J</u> , <u>F593K</u> , <u>F593L</u> , <u>F593M</u>







### SAE J429 Bolt Grade Markings


Grade 2	
Grade 5	
Grade 8	

**TABLA DE MARCAS DE  
CABEZA DE PERNO Y  
TUERCA**



Grade Identification Marking	Specification	Material	Nominal Size In.	Proof Load Stress ksi	Tensile Strength Min ksi	Hardness Rockwell	
						Min	Max
 <b>NO MARK</b>	SAE J429 - Grade 1	Low or Medium Carbon Steel	1/4 thru 1 1/2	33	60	B70	B100
	SAE J429 - Grade 2		1/4 thru 3/4 over 3/4 thru 1 1/2	55 33	74 60	B80 B70	B100 B100
	ASTM A307 - Grade A		1/4 thru 4	--	60	B69	B100
	ASTM A307 - Grade B		1/4 thru 4	--	60 min 100 max	B69	B95
	SAE J429 - Grade 5 ASTM A449 -- Type 1	Medium Carbon Steel, Quenched and Tempered	1/4 thru 1 over 1 thru 1 1/2	85 74	120 105	C25 C19	C34 C30
	ASTM A449 -- Type 1		over 1/2 thru 3	55	90	183	235
	SAE J429 -- Grade 5.1	Low or Medium Carbon Steel, Quenched and Tempered	No. 6 thru 1/2	85	120	C25	C40
	SAE J429 -- Grade 5.1	Low Carbon Martensite Steel, Quenched and Tempered	1/4 thru 1	85	120	C26	C36
	ASTM A449 -- Type 2					C25	C34
	ASTM A325 -- Type 1	Medium Carbon Steel, Quenched and Tempered	1/2 thru 1 over 1 to 1 1/2	85 74	120 105	C24 C19	C35 C31
	ASTM A325 -- Type 2	Low Carbon Steel, Quenched and Tempered					
	ASTM A325 -- Type 3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered					

**TABLA DE MARCAS DE  
 CABEZA DE PERNO Y  
 TUERCA**


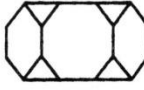


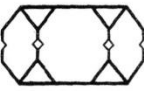

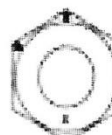
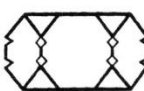
Grade Identification Marking	Specification	Material	Nominal Size In.	Proof Load Stress ksi	Tensile Strength Min ksi	Hardness Rockwell	
						Min	Max
	ASTM A354 Grade BC	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 2 1/2 over 2 1/2 thru 4	105 95	125 115	C26 C22	C36 C33
	SAE J429 Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1 1/2	120	150	C33	C39
	ASTM A354 Grade BD		1/4 thru 2 1/2 over 2 1/2 thru 4	120 105	150 140	C33 C31	C39 C39
	SAE J429 Grade 8.2	Low Carbon Martensite Steel, Quenched and Tempered	1/4 thru 1	120	150	C33	C39
	ASTM A490 Type 1	Medium Carbon Alloy Steel, Quenched and Tempered	1/2 thru 1 1/2	120	150 min 170 max	C33	C38
	ASTM A490 Type 2	Low Carbon Martensite Steel, Quenched and Tempered	1/2 thru 1	120	150 min 170 max	C33	C38
	ASTM A490 Type 3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered	1/2 thru 1 1/2	120	150 min 170 max	C33	C38

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## MARCAS SOBRE TUERCA SEGÚN NORMA Y CARACTERISTICAS MECANICAS

ASTM Nut Standard	ASTM Nut Grade Markings
ASTM A194	1, 2, 2H, 3, 4, 6, 6F, 7, 7M, 8, 8A, 8C, 8CA, 8M, 8MA, 8T, 8TA, 8F, 8FA, 8P, 8PA, 8N, 8NA, 8LN, 8LNA, 8MN, 8MNA, 8MLN, 8MLNA, 8R, 8RA, 8S, 8SA, 8MLCuN, 8MLCuNA, 9C, 9CA, 16
ASTM A563	O (no mark), A (no mark), B (no mark), C (see mark below), C3 (see mark below), D, DH, DH3,  
ASTM F594	F594A, F594B, F594C, F594D, F594E, F594F, F594G, F594H, F594J, F594K, F594L, F594M, F594X, F594N, F594V, F594W, F594P, F594R, F594S, F594T, F594U, <u>F594A</u> , <u>F594B</u> , <u>F594C</u> , <u>F594D</u> , <u>F594E</u> , <u>F594F</u> , <u>F594G</u> , <u>F594H</u> , <u>F594J</u> , <u>F594K</u> , <u>F594L</u> , <u>F594M</u>

### SAE J995 Nut Grade Markings

Grade 2	 
Grade 5	  
Grade 8	  

**TABLA DE MARCAS DE  
 CABEZA DE PERNO Y  
 TUERCA**

REVISIÓN

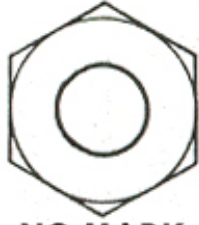





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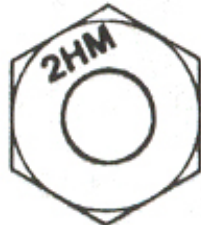


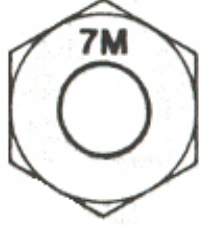
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Grade Identification Marking	Specification	Material	Nominal Size In.	Proof Load Stress ksi	Hardness Rockwell	
					Min	Max
 <b>NO MARK</b>	ASTM A563 Grade 0	Carbon Steel	1/4 thru 1 1/2	69	B55	C32
	ASTM A563 Grade A	Carbon Steel	1/4 thru 1 1/2	90	B69	C32
	ASTM A563 Grade B	Carbon Steel	1/4 thru 1	120	B69	C32
over 1 thru 1 1/2			105			
	ASTM A563 Grade C	Carbon Steel, Quenched and Tempered	1/4 thru 4	144	B78	C38
	ASTM A563 Grade C3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered	1/4 thru 4	144	B78	C38
	ASTM A563 Grade D	Carbon Steel, Quenched and Tempered	1/4 thru 4	150	B84	C38
	ASTM A563 Grade DH	Carbon Steel, Quenched and Tempered	1/4 thru 4	175	C24	C38
	ASTM A563 Grade DH3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered	1/4 thru 4	175	C24	C38

**TABLA DE MARCAS DE  
 CABEZA DE PERNO Y  
 TUERCA**

Grade Identification Marking	Specification	Material	Nominal Size In.	Proof Load Stress ksi	Hardness Rockwell	
					Min	Max
	ASTM A194 Grade 2	Medium Carbon Steel	1/4 thru 4	150	159	352
	ASTM A194 Grade 2H	Medium Carbon Steel, Quenched and Tempered	1/4 thru 4	175	C24	C38
	ASTM A194 Grade 2HM	Medium Carbon Steel, Quenched and Tempered	1/4 thru 4	150	159	237
	ASTM A194 Grade 4	Medium Carbon Steel, Quenched and Tempered	1/4 thru 4	175	C24	C38
	ASTM A194 Grade 7	Medium Carbon Steel, Quenched and Tempered	1/4 thru 4	175	C24	C38
	ASTM A194 Grade 7M	Medium Carbon Steel, Quenched and Tempered	1/4 thru 4	150	159	237