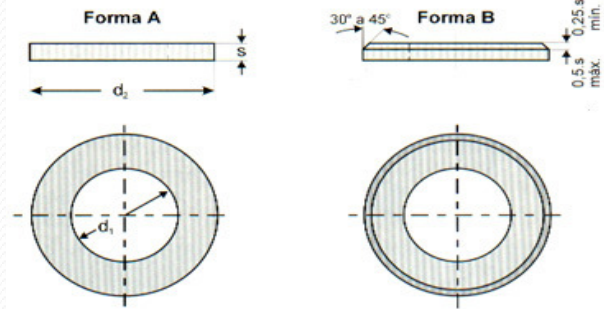


# ARRUELA LISA - SÉRIE MÉTRICA



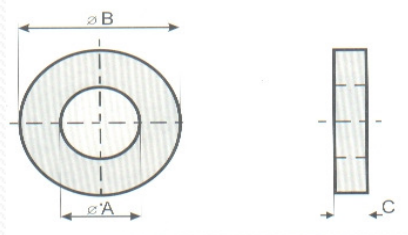
REFERÊNCIA  
DIN 125 - 03.90

Diâmetro Interno		Diâmetro Externo		Espessura		Para uso em Parafusos
d1	toler.	d2	toler.	s	toler.	
3,2	+0,18 0	7	0 -0,36	0,5	+0,10	M-3
4,3		9		0,8		M-4
5,3		10		1		M-5
6,4	+0,22 0	12,5	0 -0,43	1,6	+0,20	M-6
7,4		14		1,6		M-7
8,4		17		1,6		M-8
10,5	+0,27 0	21	0 -0,52	2	+0,30	M-10
13		24		2,5		M-12
15		28		2,5		M-14
17		30		3		M-16
19		34		3		M-18
21		37		3		M-20
23	+0,30 0	39	0 -0,62	3	+0,60	M-22
25		44		4		M-24
28		50		4		M-27
31	+0,39 0	56	0 -0,74	4	+1,0	M-30
34		60		5		M-33
37		66		5		M-36
40		72		6		M-39
43		78		7		M-42
46	+0,62 0	85	0 -1,20	7	+1,0	M-45
50		92		8		M-48
54		98		8		M-52
58	+0,74 0	105	0 -1,40	9		M-56

OBS: Tolerância conforme DIN 522 - 08.80 para produtos grau A.



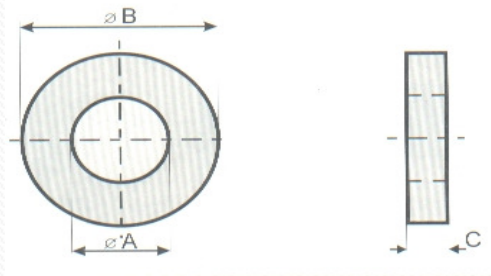
# ARRUELA LISA - SÉRIE POLEGADA



REFERÊNCIA  
ANSI B18.21.1 - 1965 (R1975)

Diâmetro Nominal	Tipo "A" - Leve					Tipo "B" - Regular					máx. min. in.
	A	máx. min.	B	máx. min.	C	máx. min.	A	máx. min.	B	máx. min.	
3/16"	6,731		14,655		1,651		5,359		14,478		1,143
	6,223		14,147		0,914		5,029		14,147		0,914
1/4"	7,518		16,256		2,032		7,518		19,024		1,803
	7,010		15,748		1,295		7,010		18,465		1,422
5/16"	9,118		17,856		2,032		9,118		22,606		1,803
	8,610		17,297		1,295		8,610		22,047		1,422
3/8"	10,693		21,005		2,032		10,693		25,781		1,803
	10,185		20,447		1,295		10,185		25,222		1,422
7/16"	12,293		23,799		2,032		12,293		28,956		1,803
	11,785		23,241		1,295		11,785		28,397		1,422
1/2"	13,868		27,736		3,073		13,868		32,512		2,844
	13,360		26,797		1,879		13,360		31,572		2,286
9/16"	15,468		30,124		3,073		15,468		38,074		2,844
	14,960		29,186		1,879		14,960		37,134		2,286
5/8"	17,424		34,086		3,073		17,424		45,212		2,844
	16,484		33,147		1,879		16,484		44,272		2,286
3/4"	21,386		38,074		4,064		21,386		51,562		2,844
	20,447		37,134		2,743		20,447		50,622		2,286
7/8"	24,587		45,212		4,064		24,587		57,912		4,419
	23,647		44,272		2,743		23,647		56,972		3,708
1"	27,736		51,562		4,064		27,736		64,262		4,419
	26,797		50,622		2,743		26,797		63,322		3,708
1.1/8"	32,512		57,912		4,064		30,937		70,612		4,419





Diâmetro Nominal	Tipo "A" - Leve				Tipo "B" - Regular				máx. min.		
	A	máx. min.	B	máx. min.	C	máx. min.	A	máx. min.		B	máx. min.
1.1/8"	31,572		56,972		2,743		29,997		69,672		3,708
1.1/4"	35,687		64,262		4,876		34,086		76,962		4,419
1.3/8"	34,747		63,322		3,454		33,147		76,02		3,708
1.3/8"	38,862		70,612		4,876		37,287		83,312		4,419
1.1/2"	37,922		69,672		3,454		36,347		82,372		3,708
1.1/2"	42,037		76,962		4,876		40,187		90,043		6,756
1.5/8"	41,097		76,022		3,454		39,420		88,646		5,943
1.5/8"	45,593		36,393		5,410		45,593		96,393		6,756
1.5/8"	44,196		94,996		3,886		44,196		94,996		5,943
1.3/4"	48,768		102,743		5,410		48,768		102,743		6,756
1.3/4"	47,371		101,346		3,886		47,371		101,346		5,943
1.7/8"	51,943		109,093		5,410		51,943		109,093		6,756
1.7/8"	50,546		107,696		3,886		50,546		107,696		5,943
2"	55,118		115,443		5,410		55,118		115,443		6,756
2"	53,721		114,046		3,886		53,721		114,046		5,943