BLIND BOLT COMPANY

Full technical details and distributor information can be found on our website www.blindbolt.com
All dimensions are stated in millimetres unless noted otherwise.

Printing Date: July 2018

BLIND BOLT

Blind Bolt Product Specification
Geomet 500B - Property Class 10.9

Bolt Size (Stock number)	Box Qty	Hole Diameter	Fixing Thickness Min	Fixing Thickness Max	Anchor Clearance	Depth Clearance	Minimum Hole Centres
M8 x 50	50	9	9	24	19	25	20
BB0850DTASM		11/32"	23/64"	15/16"	3/4"	63/64"	25/32"
M10 x 60	40	11	10	30	23	30	20
BB1060DTASM		7/16"	25/64"	1 3/16"	29/32"	1 3/16"	25/32"
M10 x 95	20	11	25	65	23	30	20
BB1095DTASM		7/16"	63/64"	2 9/16"	29/32"	1 3/16"	25/32"
M10 x 130	20	11	55	100	23	30	20
BB10130DTASM		7/16"	2 11/64"	3 15/16"	29/32"	1 3/16"	25/32"
M12 x 70	20	13	12	35	26	35	25
BB1270DTASM		1/2"	15/32"	1 3/8"	1 1/32"	1 3/8"	63/64"
M12 x 120	25	13	30	85	26	35	25
BB12120DTASM		1/2"	1 2/16"	3 11/32"	1 1/32"	1 3/8"	63/64"
M12 x 180	20	13	80	140	26	35	25
BB12180DTASM		1/2"	3 5/32"	5 23/64"	1 1/32"	1 3/8"	63/64"
M14 x 75*	20	14.5	14	35	32	38	32
GBB1475DTASM		9/16"	9/16"	1 3/8"	1 1/4"	1 1/2"	1 1/2"
M14 x 125*	20	14.5	28	82	32	38	32
GBB14125DTASM		9/16"	1 1/8"	3 1/4"	1 1/4"	1 1/2"	1 1/4"
M14 x 185*	20	14.5	75	142	32	38	32
GBB14185DTASM		9/16"	3"	5 1/2"	1 1/4"	1 1/2"	1 1/4"
M16 x 90*	20	17	13	43	36	43	35
GBB1690DTASM		11/16"	33/64"	1 11/64"	1 27/64"	1 11/16"	1 3/8"
M16 x 130*	15	17	40	75	36	43	35
GBB16130DTASM		11/16"	1 27/64"	2 61/64"	1 27/64"	1 11/16"	1 3/8"
M16 x 180*	10	17	55	125	36	43	35
GBB16180DTASM		11/16"	2 11/64"	4 59/64"	1 27/64"	1 11/16"	1 3/8"
M20 x 110*	10	22	21	56	44	56	48
GBB20110DTASM		13/16"	53/64"	2 13/64"	1 47/64"	2 13/64"	1 57/64"
M20 x 140*	8	22	21	86	44	56	48
GBB20140DTASM		13/16"	53/64"	3 25/64"	1 47/64"	2 13/64"	1 57/64"
M20 x 180*	10	22	80	120	44	56	48
GBB20180DTASM		13/16"	3 5/32"	4 23/32"	1 47/64"	2 13/64"	1 57/64"
M20 x 250*	10	22	130	185	44	56	48
GBB20250DTASM		13/16"	5 1/8"	7 9/32"	1 47/64"	2 13/64"	1 57/64"
M24 x 130*	5	26	21	66	53	64	60
GBB24130DTASM		1"	53/64"	2 19/32"	2 3/32"	2 33/64"	2 23/64"
M30 x 140*	5	32	27	60	65	72	75
GBB30140DTASM		1 1/4"	1 1/16"	2 23/64"	2 9/16"	2 53/64"	2 61/64"

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BLIND BOLT

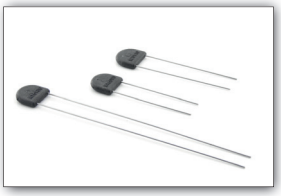
Carbon steel Blind Bolt Design to AISC 360-10

Diameter inch (mm)	Tensile Strength (kips)		Shear Strength Over Slot (kips)		Shear Strength Over Threads (kips)		Recommended Tightening Torque (lbf)
	R_n/Ω	ϕR_n	R_n/Ω	ϕR_n	R_n/Ω	ϕR_n	
	ASD	**LRFD**	**ASD**	**LRFD**	**ASD**	**LRFD**	
0.345 (8)	0.97	1.46	1.47	2.20	2.30	3.45	11
0.394 (10)	1.82	2.73	2.51	3.76	3.67	5.51	18
0.472 (12)	2.64	3.96	3.47	5.21	5.33	8.00	22
0.551 (14)	3.68	5.52	4.82	7.23	7.28	10.92	28
0.630 (16)	5.64	8.46	6.8	10.20	9.92	14.87	36
0.787 (20)	8.12	12.19	10.03	15.05	15.49	23.24	48
0.945 (24)	11.57	17.35	13.89	20.84	22.31	33.46	55
1.181 (30)	19.01	28.52	21.71	32.56	35.50	53.25	63

In bearing, the resistance of a blind bolt should satisfy the requirements of AISC specification 360-10 clause J3-10, expressions J3-6a or J3-6b as required, using the nominal diameter *d*, of the bolt. No reduction in diameter to allow for the slot is required.
In combined tension and shear, blind bolts should satisfy the following expressions:

LRFD: $\left(\frac{F_{t,Ed}}{\phi R_{nt}}\right) + \left(\frac{F_{v,Ed}}{\phi R_{nv}}\right) \leq 1.3$

ASD: $\left(\frac{F_{t,Ed}}{R_{nt}/\Omega}\right) + \left(\frac{F_{v,Ed}}{R_{nv}/\Omega}\right) \leq 1.3$



where:

$F_{t,Ed}$ and $F_{v,Ed}$ are the applied tension and shear forces respectively (LRFD or ASD values)

ϕR_{nt} and R_{nt}/Ω are the design tension resistance (LRFD or ASD), from the above table.

ϕR_{nv} and R_{nv}/Ω are the design shear resistance (LRFD or ASD) from the above table.

The above resistances and interaction criteria make no allowance for the deformation or yield of the connected part.

Important Note: The above tension resistances make no allowance for the deformation or yield of the connected parts. An appropriate design model for connections in hollow sections can be found in Joints in Steel Construction: Simple Connections

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BLIND BOLT

Stainless Steel Blind Bolt Product Specification

Bolt Size (Stock number)	Box Qty	Hole Diameter	Fixing Thickness Min	Fixing Thickness Max	Anchor Clearance	Depth Clearance	Minimum Hole Centres
M8 x 50	50	9	9	24	19	25	20
BB0850A4ASM		11/32"	23/64"	15/16"	3/4"	63/64"	25/32"
M10 x 60	40	11	10	30	23	30	20
BB1060SSA4ASM		7/16"	25/64"	1 3/16"	29/32"	3/16"	25/32"
M12 x 90	20	13	12	55	26	35	25
BB1290SSA4ASM		1/2"	15/32"	2 11/64"	1 1/32"	1 3/8"	63/64"
M16 x 100*	20	17	13	53	36	43	35
GBB16100SSA4ASM		11/16"	33/64"	2 3/64"	1 27/64"	1 11/16"	1 3/8"

Stainless Steel Blind Bolt Product Specification Design to AISC Design Guide 27

Diameter inch (mm)	Tensile Strength (kips)		Shear Strength Over Slot (kips)		Shear Strength Over Threads (kips)		Recommended Tightening Torque (lbf)
	R_n/Ω	ϕR_n	R_n/Ω	$R\phi$	R_n/Ω	ϕR_n	
	ASD	LRFD	ASD	LRFD	ASD	LRFD	
0.345 (8)	1.15	1.37	1.00	1.51	1.58	2.38	11
0.394 (10)	2.14	3.21	1.71	2.57	2.51	3.76	16
0.472 (12)	3.12	4.68	2.38	3.56	3.65	5.47	20
0.630 (16)	6.52	9.73	9.73	6.97	6.79	10.19	33

For bearing in carbon steel elements, the resistance of a stainless steel blind bolt should satisfy the requirements of AISC specification 360-10 clause J3-10, expressions J3-6a or J3-6b as required, using the nominal diameter d, of the bolt. No reduction in diameter to allow for the slot is required.
The bolt should satisfy the requirements of AISC Design Guide 27, section 9.3.6, expressions 9-1 or 9-4 as required, using the nominal diameter d, of the bolt. No reduction in diameter to allow for the slot is required. It may be assumed that for the common grade of austenitic stainless steel, Fu = 515 N/mm2 (75 ksi).
In combined tension and shear, stainless steel blind bolts should satisfy the following expressions:

LRFD: $\left(\frac{F_{t,Ed}}{\phi R_{nt}}\right) + \left(\frac{F_{v,Ed}}{\phi R_{nv}}\right) \leq 1.3$

ASD: $\left(\frac{F_{t,Ed}}{R_{nt}/\Omega}\right) + \left(\frac{F_{v,Ed}}{R_{nv}/\Omega}\right) \leq 1.3$

where:
$F_{t,Ed}$ and $F_{v,Ed}$ are the applied tension and shear forces respectively (LRFD or ASD values) ϕR_{nt} and R_{nt}/Ω are the design tension resistance (LRFD or ASD), from the above table.ϕR_{nv} and R_{nv}/Ω are the design shear resistance (LRFD or ASD) from the above table. The above resistances and interaction criteria make no allowance for the deformation or yield of the connected part.