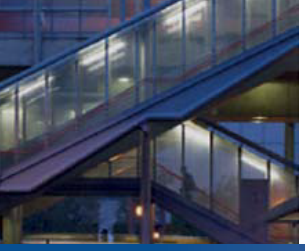


BLIND BOLT COMPANY

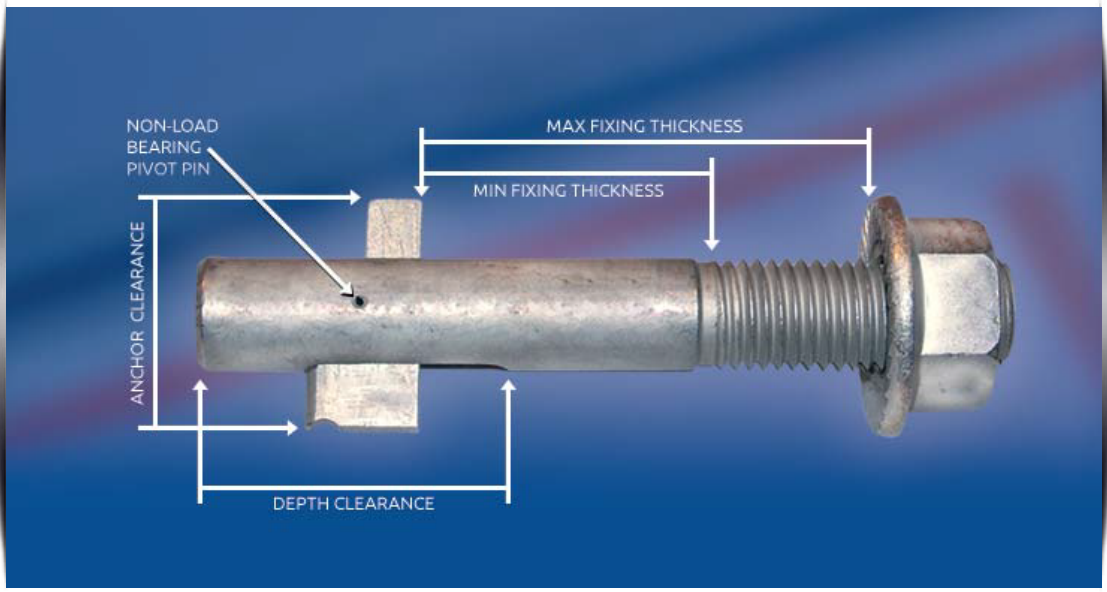
Full technical details and distributor information can be found on our website www.blindbolt.co.uk
All dimensions are stated in millimetres unless noted otherwise.

Printing Date: June 2018

Blind Bolt Product Specification
Geomet 500B - Property Class 10.9

Product Code	Bolt Size	Box Qty	Hole Diameter	Fixing Thickness Min	Fixing Thickness Max	Anchor Clearance	Depth Clearance	Minimum Hole Centres
BB0850DTASM	M8 x 50	50	9	9	24	19	25	20
BB1060DTASM	M10 x 60	40	11	10	30	23	30	20
BB1095DTASM	M10 x 95	20	11	25	65	23	30	20
BB10130DTASM	M10 x 130	20	11	55	100	23	30	20
BB1270DTASM	M12 x 70	20	13	12	35	26	35	25
BB12120DTASM	M12 x 120	25	13	30	85	26	35	25
BB12180DTASM	M12 x 180	20	13	80	140	26	35	25
GBB1690DTASM	M16 x 90*	20	17	13	43	36	43	35
GBB16130DTASM	M16 x 130*	15	17	40	75	36	43	35
GBB16180DTASM	M16 x 180*	10	17	55	125	36	43	35
GBB20110DTASM	M20 x 110*	10	22	21	56	44	56	48
GBB20140DTASM	M20 x 140*	8	22	21	86	44	56	48
GBB20180DTASM	M20 x 180*	10	22	80	120	44	56	48
GBB20250DTASM	M20 x 250*	10	22	130	185	44	56	48
GBB24130DTASM	M24 x 130*	5	26	21	66	53	64	60
GBB30140DTASM	M30 x 140*	5	32	27	60	65	72	75

* = We strongly recommend the use of our installation gauges when installing these bolts!



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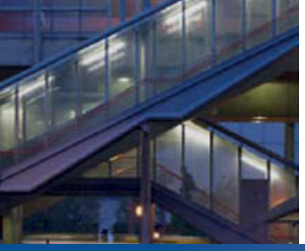

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BLIND BOLT

Blind Bolt Design Capacities NZS 3404:1997 or AS 4100:1998

The design values for the shear capacity $\phi' V_f$ and tension capacity $\phi' N_{tf}$ of Blind Bolts given in the following table may be used in conjunction with designs completed to NZS 3404:1997 or AS 4100:1998.

Diameter	Tension Capacity $\phi' N_{tf}$ (kN)	Shear Capacity Over Thread $\phi' V_{f\,(thread)}$ (kN)	Shear Capacity Over Slot $\phi' V_{f\,(slot)}$ (kN)
M8	6.9	14.6	11.1
M10	12.9	23.2	19.0
M12	18.8	33.7	26.3
M16	40.1	62.7	51.5
M20	57.8	97.9	76.1
M24	82.3	141.0	105.4

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

The bearing capacity of the ply should be calculated in accordance with the design Standard, based on the nominal diameter d_f of the bolt. No reduction for the slot is necessary.

Bolts subject to combined shear and tension should be verified in accordance with the design Standard, using the values of $\phi' V_f$ (slot) and $\phi' N_{tf}$ from the table above.

The above design values were prepared by SCI, UK, following a program of tests. Design values verified by HERA, NZ are shown below.

Diameter	Tension Capacity $\phi' N_{tf}$ (kN)	Shear Capacity Over Slot $\phi' V_{f\,(slot)}$ (kN)
M10	12.0	20.6
M20	63.7	122.5
M24	86.7	202.6

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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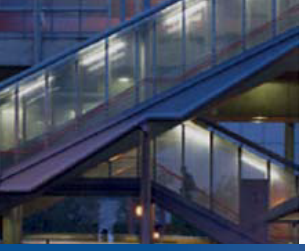

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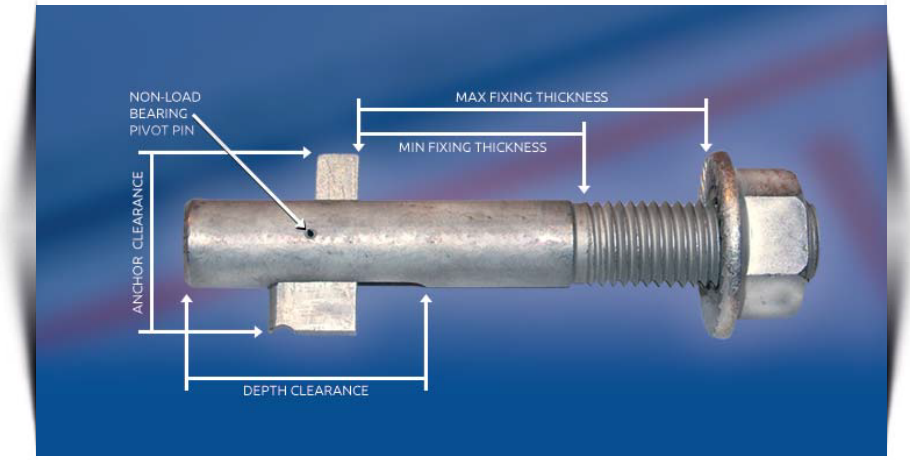
Printing Date: June 2017

BLIND BOLT

Blind Bolt Product Specification
Stainless Steel A4-70

Product Code	Bolt Size	Box Qty	Hole Diameter	Fixing Thickness Min	Fixing Thickness Max	Anchor Clearance	Depth Clearance	Minimum Hole Centres
BB0850A4ASM	M8 x 50	50	9	9	24	19	25	20
BB1060A4ASM	M10 x 60	40	11	10	30	23	30	20
BB1290A4ASM	M12 x 90	20	13	12	55	26	35	25
GBB16100A4ASM*	M16 x 100*	20	17	13	53	36	43	35

* = We strongly recommend the use of our installation gauges when installing these bolts!



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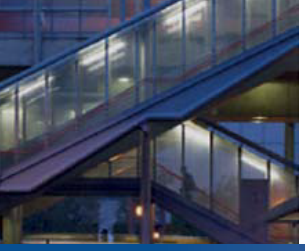

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Printing Date: June 2017

BLIND BOLT

Stainless Steel Blind Bolt Design to BS 5950

Diameter	Tension Capacity P_t (kN)	Shear Capacity Over Thread P_s, thread (kN)	Shear Capacity Over Slot P_s, slot (kN)	Bearing Capacity in 10mm Plate S275 P_b (kN)	Bearing Capacity in 10mm Plate S355 P_b (kN)
M8	7.7	10.3	6.5	20.7	24.8
M10	14.3	16.2	11.1	27.6	33.0
M12	20.8	23.6	15.4	32.2	38.5
M16	43.5	44.0	30.1	46.0	55.0

These capacities are suitable for design to BS 5950-1 and can be compared directly with factored loads. Bearing resistances for different thicknesses can be calculated by scaling the values given in proportion to the thickness, but should only be used when the end distance is greater than 2d.

Bolts subject to combined tension and shear should satisfy the following expression: $\frac{F_s}{P_s} + \frac{F_t}{P_T} \leq 1.4$

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

Stainless Steel Blind Bolt Design to BS EN 1993-1-8

Diameter	Tension Capacity $F_{t,Rd}$ (kN)	Shear Resistance Over Thread $P_{V,Rd}$ thread (kN)	Shear Capacity Over Slot $F_{v,Rd}$ slot (kN)	Bearing Capacity in 10mm Plate S275 P_{bs} (kN)	Bearing Capacity in 10mm Plate S355 P_{bs} (kN)
M8	7.7	12.3	7.8	65.6	75.2
M10	14.3	19.5	13.3	82.0	94.0
M12	20.8	28.3	18.5	98.4	112.8
M16	43.5	52.8	36.1	131.2	150.4

These design resistances are suitable for design to BS EN 1993 and can be compared directly with design loads. The quoted bearing resistances assume k1 = 2.5 and αb = 1.0. For different arrangements the bearing resistance should be calculated using the expression in Table 3.4 of BS EN 1993-1-8, with d as the nominal diameter of the blind bolt.

Bolts subject to combined tension and shear should satisfy the following expression: $\frac{F_{v,Ed}}{F_{v,Rd}} + \frac{F_{t,Ed}}{1.4F_{t,Rd}} \leq 1.0$

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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