



CURRENT DESIGN ACTIVITY
CAGE CODE 0HDW7
HFS TUCSON OPERATIONS
3724 EAST COLUMBIA STREET
TUCSON, ARIZONA 85714
PHONE (520) 519-7400
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Unimatic® BLIND BOLT ENGINEERING STANDARD

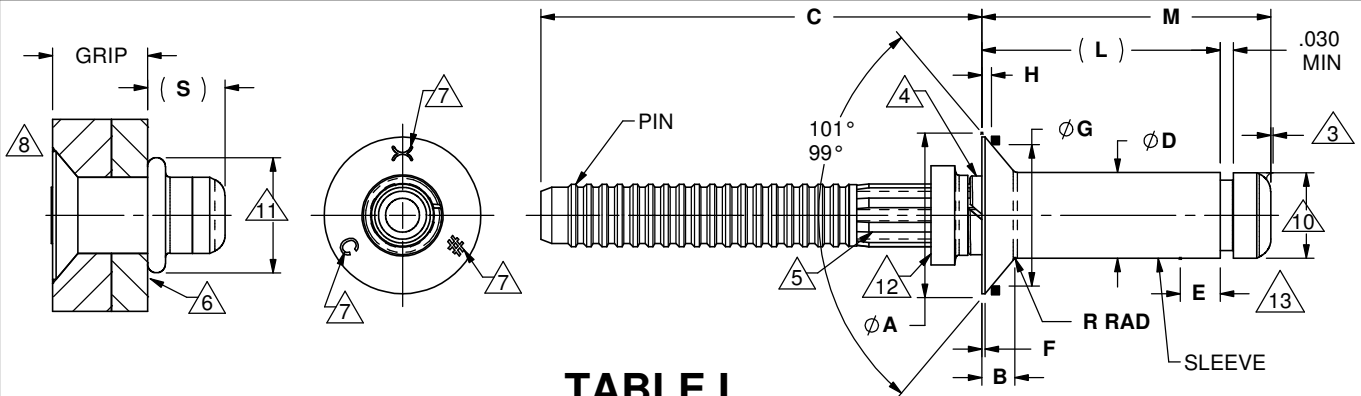


















TABLE I

PART NUMBER	NOM DIA.	Ø A HEAD THEO. INTER. MAX	B HEAD HEIGHT MAX	C MIN.	Ø D SLEEVE ±.001	E MAX	F MAX	Ø G GAGE ±.0001	H GAGE HEIGHT	R RAD. MAX.	(S) DESIGN REF	SINGLE SHEAR  	TENSILE 	HOLE LIMITS +.003 -.000
UB100-EU05-()	05	.334	.073	.844	.163	.215	.011	.2831	.0206 .0171	.010	.202	1980	1150	.164
UB100-EU06-()	06	.387	.080	.875	.198	.250	.013	.3271	.0243 .0205	.015	.231	2925	1690	.199
UB100-EU08-()	08	.508	.106	1.000	.259	.305	.017	.4319	.0310 .0270	.020	.279	5005	2900	.260
UB100-EU10-()	10	.635	.138	1.218	.311	.350	.020	.5450	.0367 .0325	.025	.319	7215	4170	.312
UB100-EU12-()	12	.763	.166	1.562	.373	.405	.023	.6581	.0428 .0380	.030	.364	10380	5970	.374

-  MINIMUM ULTIMATE SINGLE SHEAR AND TENSILE STRENGTHS IN POUNDS OF INSTALLED FASTENER.
-  APPLIES TO GRIPS 05-04 MAX, 06-05 MAX, 08-06 MAX, 10-07 MAX, 12-09 MAX AND UP. IN SHORTER GRIPS, A TRUE COMPOSITE SHEAR TEST CANNOT BE OBTAINED.
-  TRIM FLASH NOT TO EXCEED .005 MAXIMUM LENGTH ABOVE HEAD OF PIN.
-  SOLID OR SPLIT LOCK COLLAR - MANUFACTURER'S OPTION. SPLIT NOT TO EXCEED .020 WIDTH.
-  KNURLED TO FACILITATE FASTENER ASSEMBLY. NOT PART OF THE INSTALLED FASTENER.
-  BLIND SIDE HEAD MAY BE INSTALLED ON 5° MAXIMUM SLOPE.
-  IDENTIFICATION: HUCK SYMBOL, "C" AND GRIP DASH NUMBER.
-  CONCENTRICITY: CONICAL SURFACE OF FLUSH HEAD TO "D" DIAMETER TO BE WITHIN .010 T.I.R. HEAD ROUNDNESS TO BE WITHIN .010.
-  NOMINAL 05 AND 06 DIAMETER PARTS ARE COLOR IDENTIFIED GREEN (LOCATION OPTIONAL).
-  MAXIMUM DIAMETER OF PIN HEAD SHALL NOT EXCEED "D" MAX. AND MAY BE .002 BELOW "D" MIN.
-  MAXIMUM DIAMETER OF BLIND HEAD SHALL NOT EXCEED MAXIMUM DIAMETER OF MANUFACTURED HEAD "A", FOR ENGINEERING DESIGN REF ONLY.
-  DRIVE WASHER AVAILABLE TO FACILITATE INSTALLATION ONLY. NOT PART OF INSTALLED FASTENER.
-  "E" LENGTH OF "ØD" MAY BE .002 UNDERSIZE.

DIMENSIONS IN INCHES

W	PER ECN 14848 UPDATED ALCOA LOGO TO HOWMET LOGO			PROC. SPEC. NASM8975	DRAWN BY	J. SCHLOBOHM
				NAS 353 CODE AWY	CHECKED BY	SIGNATURE ON FILE
ISSUED	7/19/1982	Unimatic® BLIND BOLT FASTENER, HIGH STRENGTH, PULL-TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, A-286 CRES (95 KSI SHEAR) SINGLE ACTION INSTALLATION			UB100-EU (MS21140U) BLB108	
REVISED	9/8/2021					
PAGE	1 OF 3					

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14 THE GRIP RANGE OF UB100-EU06-02 IS .120-.157.

TABLE II

GRIP NUMBER TABULATION												
GRIP DASH NUMBER	DESIGN GRIP RANGE		05		06		08		10		12	
	MIN.	MAX.	(L)	M MAX	(L)	M MAX	(L)	M MAX	(L)	M MAX	(L)	M MAX
02	.094	.157	.280	.434	.329	.505						
03	.156	.220	.342	.496	.365	.541	.406	.616				
04	.219	.282	.405	.559	.428	.604	.469	.678	.506	.743	.548	.820
05	.281	.345	.467	.622	.490	.666	.531	.740	.568	.805	.610	.883
06	.344	.407	.530	.684	.553	.729	.594	.803	.631	.868	.673	.945
07	.406	.470	.592	.746	.615	.791	.656	.866	.693	.930	.735	1.007
08	.469	.532	.655	.809	.678	.854	.719	.928	.756	.993	.798	1.070
09	.531	.595	.717	.872	.740	.916	.781	.990	.818	1.055	.860	1.133
10	.594	.657	.780	.934	.803	.979	.844	1.053	.881	1.118	.923	1.195
11	.656	.720	.842	.996	.865	1.041	.906	1.116	.943	1.180	.985	1.257
12	.719	.782	.905	1.059	.928	1.104	.969	1.178	1.006	1.243	1.048	1.320
13	.781	.845	.967	1.122	.990	1.166	1.031	1.240	1.068	1.305	1.110	1.383
14	.844	.907	1.030	1.184	1.053	1.229	1.094	1.303	1.131	1.368	1.173	1.445
15	.906	.970	1.092	1.246	1.115	1.291	1.156	1.366	1.193	1.430	1.235	1.507
16	.969	1.032	1.155	1.309	1.178	1.354	1.219	1.428	1.256	1.493	1.298	1.570
17	1.031	1.095	1.217	1.372	1.240	1.416	1.281	1.490	1.318	1.555	1.360	1.633
18	1.094	1.157	1.280	1.434	1.303	1.479	1.344	1.553	1.381	1.618	1.423	1.695
19	1.156	1.220	1.342	1.496	1.365	1.541	1.406	1.616	1.443	1.680	1.485	1.757
20	1.219	1.282	1.405	1.559	1.428	1.604	1.469	1.678	1.506	1.743	1.548	1.820
21	1.281	1.345	1.467	1.622	1.490	1.666	1.531	1.740	1.568	1.805	1.610	1.883
22	1.344	1.407	1.530	1.684	1.553	1.729	1.594	1.803	1.631	1.868	1.673	1.945
23	1.406	1.470	1.592	1.746	1.615	1.791	1.656	1.866	1.693	1.930	1.735	2.007
24	1.469	1.532	1.655	1.809	1.678	1.854	1.719	1.928	1.756	1.993	1.798	2.070
25	1.531	1.595	1.717	1.872	1.740	1.916	1.781	1.990	1.818	2.055	1.860	2.133
26	1.594	1.657			1.803	1.979	1.844	2.053	1.881	2.118	1.923	2.195
27	1.656	1.720					1.906	2.116	1.943	2.180	1.985	2.257
28	1.719	1.782					1.969	2.178	2.006	2.243	2.048	2.320
29	1.781	1.845					2.031	2.240	2.068	2.305	2.110	2.383
30	1.844	1.907							2.131	2.368	2.173	2.445
31	1.906	1.970							2.193	2.430	2.235	2.507
32	1.969	2.032									2.298	2.570
33	2.031	2.095									2.360	2.633
34	2.094	2.157									2.423	2.695
35	2.156	2.220									2.485	2.757
36	2.219	2.282									2.548	2.820

DIMENSIONS IN INCHES

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					NAS 353: CODE AWY	CHECKED BY	SIGNATURE ON FILE
ISSUED	7/19/1982	Unimatic® BLIND BOLT FASTENER, HIGH STRENGTH, PULL-TYPE, POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD, A-286 CRES (95 KSI SHEAR) SINGLE ACTION INSTALLATION				UB100-EU (MS21140U)	
REVISED	9/8/2021					BLB108	
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TABLE III

BOLT COMPONENTS	COMPOSITION	FINISHES
SLEEVE	A-286 CRES PER CHEMISTRY OF AMS5737	PASSIVATE PER AMS2700 AND AMS QQ-P-35 OR CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2 OR ALUMINUM (IVD) COAT PER MIL-DTL-83488, CLASS 3, TYPE II OR ALUMINUM COAT PER NAS4006 AND BMS10-85
PIN	A-286 CRES PER CHEMISTRY OF AMS5737	PASSIVATE PER AMS2700 AND AMS QQ-P-35
MECHANICAL LOCK	A-286 CRES PER CHEMISTRY OF AMS5737 OR TYPE 316 CRES PER CHEMISTRY OF AMS5690 (MANUFACTURER'S OPTION)	PASSIVATE PER AMS2700 AND AMS QQ-P-35

LUBRICATION- WHEN LUBRICATED, PARTS SHALL BE LUBRICATED PER AS5272, AS87132 OR DOD-L-85645 (MANUFACTURER'S OPTION).

15. FOR "F" CODE, SPACE COMPATIBLE APPLICATIONS FASTENER MAY BE EITHER UNLUBRICATED OR LUBRICATED PER DOD-L-85645. (MANUFACTURER'S OPTION)

PART NUMBER EXAMPLE:

UB100-EU06 - 04()

NO CODE DENOTES PASSIVATION TREATMENT
"AC" DENOTES ALUMINUM COAT PER NAS4006 AND BMS10-85
"CG" CODE DENOTES CADMIUM PLATING WITH GOLD CHROMATE
"CD" CODE DENOTES CADMIUM PLATING WITH CLEAR CHROMATE
"D" CODE DENOTES ALUMINUM (IVD) COATING
"W" DENOTES OPTIONAL DRIVE WASHER INSTALLATION
GRIP NUMBER IN 16TH INCHES
SUBSTITUTE "F" FOR DASH FOR SPACE COMPATIBLE EX: UB100-EU06F03
NOMINAL SHANK DIAMETER IN 32ND INCHES
MATERIAL DESIGNATOR: A-286 CRES (95 KSI SHEAR)
Unimatic® BLIND BOLT FASTENER, HIGH STRENGTH PULL-TYPE,
POSITIVE MECHANICAL LOCK, 100° FLUSH HEAD
SIGNIFIES SINGLE ACTION INSTALLATION WITHOUT LOCKING COLLAR CAP

15

PART NUMBER EXAMPLE:

MS21140U0604()

NO CODE DENOTES PASSIVATION TREATMENT
"P" CODE DENOTES CADMIUM PLATING
"W" DENOTES DRIVE WASHER FOR BLUNT NOSED TOOL INSTALLATION
GRIP NUMBER IN 16TH INCHES
DIAMETER DASH NUMBER IN 32ND INCHES
SIGNIFIES SINGLE ACTION INSTALLATION WITHOUT FRANGIBLE LOCKING COLLAR OR LOCKING COLLAR CAP
MS PART NUMBER FOR 100° FLUSH HEAD

DIMENSIONS IN INCHES

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