

1. Introduction.

1.1 Scope. This standard establishes the dimensional, mechanical, and performance requirements of inch series structural flush break pull mandrel self-plugging blind rivets suitable for use in joining the component parts of an assembly. A metric series counterpart standard is in existence under designation IFI-551.

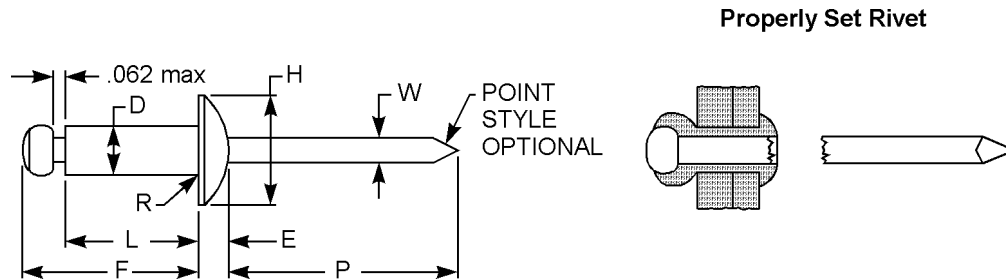


Table 1 Dimensions of Regular and Large Dome Head Style Structural Flush Break Pull Mandrel Self-Plugging Blind Rivets

Rivet Series No.	Nom Rivet Size	D		H		E	H		E	R	W	P	F	L
		Body Dia		Style 1 — Regular Head		Style 2 — Large Head			Radius of Fillet	Mandrel Dia	Mandrel Protru-sion	Blind Side Protru-sion	Rivet Body Length	
				Head Dia		Head Height	Head Dia							Head Height
		Max	Min	Max	Min	Max	Max	Min	Max	Max	Nom	Min	Max	Max
4	1/8 0.1250	0.128	0.122	0.262	0.238	0.040	0.390	0.360	0.065	0.020	0.076	1.00	L + .187	See Table 2
5	5/32 0.1562	0.159	0.153	0.328	0.296	0.050	0.488	0.448	0.075	0.020	0.095	1.00	L + .203	
6	3/16 0.1875	0.191	0.183	0.394	0.356	0.060	0.650	0.600	0.092	0.025	0.114	1.00	L + .218	
8	1/4 0.2500	0.255	0.246	0.525	0.475	0.080	0.780	0.720	0.107	0.030	0.151	1.00	L + .250	
See Notes										3			4	

NOTES:

- All dimensions are in inches.
- For application data, see Table 2.
- The junction of head and shank shall have a fillet with a max radius as shown. For Grades 40, 50, 51 and 52 rivets, the max fillet radius for 3/16 in. rivets shall be 0.035 in., and for 1/4 in. rivets it shall be 0.060 in.
- When computing the blind side protrusion (F), the max length of rivet body (L) as given in Table 2 for the applicable grip shall be used. Minimum blind side clearance may be calculated by subtracting the actual grip (G), (i.e., total thickness of the material to be joined), from the specified blind side protrusion (F). (Example: To join two plates, each .100 in. thick, with a 5/32 in. rivet, a No. 53 rivet would be used. Minimum blind side clearance necessary to permit proper rivet setting would be $L + .203 - G$, which is $.362 + .203 - .200$, and equals .365 in.)

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Table 2 Application Data for Dome Head Style Structural Flush Break Pull Mandrel Self-Plugging Blind Rivets

Rivet Series No.	Nom Rivet Size	Recommended Drill Size	Recommended Hole Size		Rivet No.	Grip Range		Rivet Body Length L
			Max	Min		Min	Max	
4	1/8 0.1250	#30	0.133	0.129	41	0.047	0.078	0.212
					41.5	0.078	0.109	0.275
					42	0.109	0.141	0.275
					42.5	0.141	0.172	0.337
					43	0.172	0.203	0.337
					43.5	0.203	0.234	0.400
					44	0.234	0.266	0.400
					44.5	0.266	0.297	0.462
					45	0.297	0.328	0.462
					45.5	0.328	0.359	0.525
					46	0.359	0.391	0.525
					46.5	0.391	0.422	0.587
					47	0.422	0.453	0.587
					47.5	0.453	0.484	0.650
					48	0.484	0.515	0.650
					48.5	0.515	0.546	0.712
49	0.546	0.578	0.712					
49.5	0.578	0.609	0.775					
410	0.609	0.640	0.775					
5	5/32 0.1562	#20	0.164	0.160	52	0.109	0.141	0.300
					52.5	0.141	0.172	0.362
					53	0.172	0.203	0.362
					53.5	0.203	0.234	0.425
					54	0.234	0.266	0.425
					54.5	0.266	0.297	0.487
					55	0.297	0.328	0.487
					55.5	0.328	0.359	0.550
					56	0.359	0.391	0.550
					56.5	0.391	0.422	0.613
					57	0.422	0.453	0.613
					57.5	0.453	0.484	0.675
					58	0.484	0.515	0.675
					58.5	0.515	0.546	0.737
					59	0.546	0.578	0.737
					59.5	0.578	0.609	0.800
510	0.609	0.640	0.800					
6	3/16 0.1875	#11	0.196	0.192	61	0.046	0.078	0.325
					62	0.093	0.156	0.325
					63	0.156	0.218	0.450
					64	0.218	0.281	0.450
					65	0.281	0.343	0.575
					66	0.343	0.406	0.575
					67	0.406	0.468	0.700
					68	0.468	0.531	0.700
					69	0.531	0.593	0.825
					610	0.593	0.656	0.825
					611	0.656	0.719	0.950
					612	0.719	0.781	0.950
					613	0.781	0.843	1.075
					614	0.843	0.906	1.075
					615	0.906	0.968	1.200
					616	0.968	1.032	1.200
8	1/4 0.2500	F	0.261	0.257	82	0.093	0.156	0.375
					83	0.156	0.218	0.500
					84	0.218	0.281	0.500
					85	0.281	0.343	0.625
					86	0.343	0.406	0.625
					87	0.406	0.468	0.750
					88	0.468	0.531	0.750
					89	0.531	0.593	0.875
					810	0.593	0.656	0.875
					811	0.656	0.719	1.000
					812	0.719	0.781	1.000
					813	0.781	0.843	1.125
					814	0.843	0.906	1.125
					815	0.906	0.968	1.250
					816	0.968	1.032	1.250
					See Notes		2	

NOTES:
 1. All dimensions are in inches.
 2. Recommended drill sizes are those which normally produce holes within the specified hole size limits.
 3. The mean grip between specified min and max grips will give a mandrel break plane closest to being flush with the top surface of rivet head.

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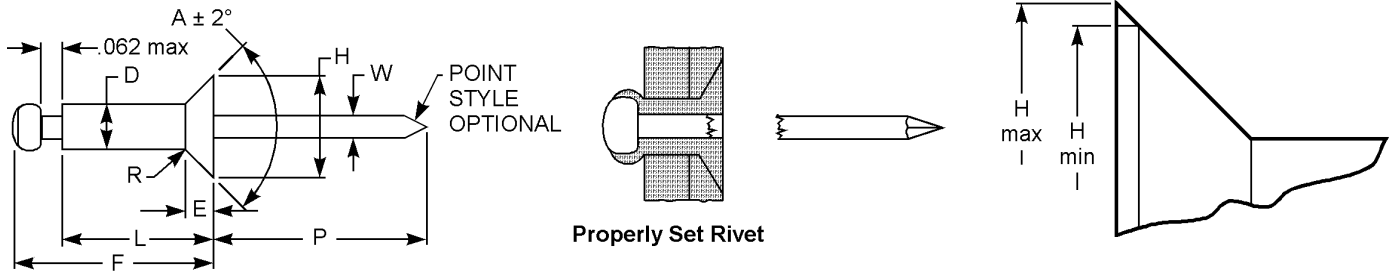


Table 3 Dimensions of 100 Deg and 120 Deg Countersunk Head Style Structural Flush Break Pull Mandrel Self-Plugging Blind Rivets

Rivet Series No.	Nom Rivet Size	D		A	H		E	A	H		E	R	W	P	F	L
		Body Dia		Style 3 – 100 Deg Head				Style 4 – 120 Deg Head				Radius of Fillet	Mandrel Dia	Mandrel Protru-sion	Blind Side Protru-sion	Rivet Body Length
				Head Angle	Head Dia		Head Height	Head Angle	Head Dia		Head Height					
		Max	Min	Deg Nom	Max	Min	Ref	Deg Nom	Max	Min	Ref	Max	Nom	Min	Max	Max
4	1/8 0.1250	0.128	0.122	100	0.233	0.207	0.045	120	0.233	0.207	0.031	0.025	0.076	1.00	L + .187	See Table 4
5	5/32 0.1562	0.159	0.153	100	0.294	0.268	0.058	120	0.294	0.268	0.040	0.030	0.095	1.00	L + .203	
6	3/16 0.1875	0.191	0.183	100	0.361	0.335	0.073	120	0.361	0.335	0.050	0.035	0.114	1.00	L + .218	
See Notes					3		4		3		4				5	

NOTES:

- All dimensions are in inches.
- For application data, see Table 4.
- Max head diameter is calculated on nominal rivet diameter and nominal head angle extended to sharp corner. Min head diameter is absolute.
- Head height is given for reference purposes only. Variations in this dimension are controlled by the diameters (H) and (D) and the included angle of the head.
- When computing the blind side protrusion (F), the max length of rivet body (L) as given in Table 4 for the applicable grip shall be used. Minimum blind side clearance may be calculated by subtracting the actual grip (G), (i.e., total thickness of the material to be joined) from the specified blind side protrusion (F). (Example: To join two plates, each .187 in. thick with a 3/16 in. rivet, a No. 66 rivet would be used. Minimum blind side clearance necessary to permit proper rivet setting would be L + .218 – G, which is .575 + .218 – .374 which equals .419 in.)

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