



WG 951

General Specifications for Semi-Tubular Rivets

1. MATERIAL. Steel per Ford Specification WSD-M1A283-B1 through WSD-M1A283-B3.
2. HEADS. The bearing surface of oval, flat, and truss rivets shall be at right angles to the axis of the rivet shank within 2 degrees. Heads of all tubular rivets shall not be eccentric with the shank beyond a tolerance of 3% of the maximum head diameter.
3. LIMITS. Allowable variation on dimensions controlling finished surfaces is plus or minus 0.25 mm unless otherwise specified.
4. UNDERHEAD FILLETS. Rivets, other than countersunk type, shall be furnished with a definite fillet under the head, but radius of fillet shall not exceed the values specified in the dimensional tables.
5. LENGTH. Length Increments and Length Tolerances shall be as specified in the following table.

Table 1.

Dimensions in mm

Nominal Size	Maximum Underhead Radius	Length Increment	Minimum Rivet Length	Tolerance on Length For Nominal Lengths		
				Up to and including 4 times shank diameter	Over 4 times shank diameter and up to and including 8 times shank diameter	Over 8 times shank diameter
1.6	0.2	0.4	1.75	+/- 0.18	+/- 0.20	+/- 0.25
2.0	0.3	0.4	2.00	+/- 0.18	+/- 0.20	+/- 0.25
2.5	0.3	0.4	2.00	+/- 0.18	+/- 0.20	+/- 0.25
3.0	0.4	0.4	2.50	+/- 0.18	+/- 0.25	+/- 0.38
3.5	0.5	0.8	3.00	+/- 0.25	+/- 0.30	+/- 0.38
4.0	0.6	0.8	3.50	+/- 0.25	+/- 0.30	+/- 0.38
5.0	0.6	0.8	3.00	+/- 0.25	+/- 0.30	+/- 0.38
6.0	0.6	1.6	5.00	+/- 0.25	+/- 0.38	+/- 0.50
7.0	0.75	1.6	5.50	+/- 0.25	+/- 0.38	+/- 0.50
8.0	0.75	1.6	6.00	+/- 0.25	+/- 0.38	+/- 0.50

A slight taper resulting from extrusion of the hollow section is permissible on tubular rivets.



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6. HOLE DEPTH. The tolerance on hole depth shall be the same as the tolerance on the length of the rivet.
7. DEFECTS. The finished rivet and irregularities shall not be such that usability of the rivet is impaired. Rivets shall be free from surface seams, splits, and all other defects that might affect their serviceability.
8. ASSEMBLY CONSIDERATIONS. The approximate length for tubular rivets should be determined by adding the total compressed thickness of the work to be assembled to the approximate clinch allowance from the following table. If the length so determined does not conform to the length increments specified, the next longer length should be used. Recommended hole sizes and clinch allowances for tubular rivets are given in the following table.

T - Thickness to be riveted.
L - Rivet Length.
H - Allowance for clinching.
G - Work hole diameter.

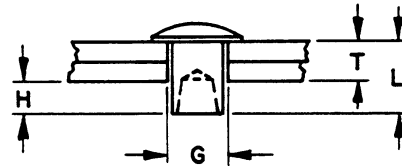


Table 2. -- Recommended Clinch Allowances and Hole Sizes for Semi-Tubular Rivets

Dimensions in mm

Nominal Size	Clinch Allowance	Hole Size Diameter *
1.6	0.88	1.75
2.0	1.10	2.19
2.5	1.50	2.73
3.0	1.80	3.27
3.5	2.10	3.81
4.0	2.40	4.37
5.0	3.25	5.44
6.0	3.90	6.53
7.0	4.55	7.60
8.0	5.20	8.67

* Optimum Hole Size based upon 107% of the maximum shank diameter.

NOTES: The above information is intended for guidance only and the rivet length and hole size required to provide optimum assembly conditions for a particular application can best be determined by experiment.