

SAMPLE SIZES

GENERAL SIZE GUIDELINES

TYPE OF TESTING	SHEET (Note 1)	PLATE (Note 1)	SHAPES (Note 2)	ROUND BAR	PIPE	TUBING	WIRE
Chemical (Note 3)	< 0.05" T = 5 Grams ≥ 0.05" T x 2" x 2"	2" x 2"	< 0.05" T = 5 Grams ≥ 0.05" T x 2" x 2"	< 1/4" D = 5 Grams ≥ 1/4" D x 2" L	2" L	< 0.05" Wall = 5 Grams ≥ 0.05" Wall x 2" L	5 Grams
Metallography (Note 4)	2" x 2"	2" x 2"	2" x 2"	2" L	2" L	2" L	2" L
Tensile	Note 5	Note 5	Note 5	Note 6	≤ 1-1/4 NPS = 18" L > 1-1/4 NPS = 12" L (Note 7)	≤ 1/2" OD = 12" L > 1/2" OD - ≤ 1-1/4" OD = 16" L > 1-1/4" - ≤ 1-3/4" OD = 18" L > 1-3/4" OD = 12" L	24" L
Hardness	2" x 2"	2" x 2"	2" x 2"	2" L	2" L	2" L	----
Charpy	----	4" W x 6" L	9" L	< 3" D = 9" L ≥ 3" D = 3" L	9" L	----	----
Bend	2" W x 12" L	≤ 1" T = 2" W x 12" L > 1" T = 2" W x 18" L	----	Note 8	36" L	≤ 1-1/2" OD = 18" L > 1-1/2" OD = (Note 8)	----
Stress Rupture	3" W x 8" L	3" W x 8" L	----	6" L	----	≤ 1/2" OD = 26" L > 1/2" - < 1-1/2" OD = N/A ≥ 1-1/2" OD = 8" L	----
Flattening	----	----	----	----	3" L Seamless 4" L Welded (Note 9)	7" L Seamless 4" L Welded (Note 9)	----
Expansion/ Flare	----	----	----	----	≤ 1 NPS = 4" L > 1 NPS = 3 x NPS	≤ 1-1/2" OD = 4" L > 1-1/2" OD = 3 x OD	----
Flange	----	----	----	----	≤ 1 NPS = 4" L > 1 NPS = 3 x NPS	≤ 1-1/2" OD = 4" L > 1-1/2" OD = 3 x OD	----
Hydro - Max Pressure	----	----	----	----	10,000 PSIG	10,000 PSIG	----

Notes: Sizes above are general guidelines and exceptions may apply

Sample sizes above are based on the material being saw cut; If gas cut, please call for sizes.

- (1) Grain/rolling direction is required when submitting sheet or plate for testing. Always mark grain/rolling direction with an arrow.
- (2) Shapes refer to beam, angle, channel, and T's.
- (3) 5g sample weight is needed for chips and samples too small to perform AES. 20g sample for powders.
- (4) Macrostructure requires a full cross section.
- (5) Material ≤ 3/4" T (8" elongation = 3" W x 18" L, 2" elongation = 3" W x 12" L); Material > 3/4" T = 2" W x 6" L
- (6) Material < 3/4" D (2" elongation = 18" L, 4D = 6" L); ≥ 3/4" D = 6" L
- (7) Material ≥ 6" NPS x > 3/4" wall thickness = 6" L. Material ≥ 8" NPS = 3" L for a transverse test (if the material spec allows transverse testing).
- (8) Requirement depends on size and specification; Call LTI for the sample size and/or testing direction.
- (9) Sample size provided is per specimen - See specification for required test quantity.



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