

L 12" x 12"

L 10" x 10"

New American Equal Leg Angles

Introduction

ArcelorMittal is proud to announce new hot-rolled equal leg angles. These 10-inch and 12-inch "L" shapes are principally aimed for transmission line and lattice wind towers, and can achieve significant cost savings on fabrication and erection. Reducing the overall weight of your structure will also improve logistics and transportation costs.

Transmission Line Towers

Already used for transmission lines between Arizona and California, 10-inch and 12-inch equal leg angles allow engineers to use less material and fewer connections in their designs. This in-turn decreases erection time and leads to fewer man-hours. Using a single large angle can be more economical than using smaller angles in square or butterfly arrangements and will increase stiffness more efficiently due to a higher moment of inertia.

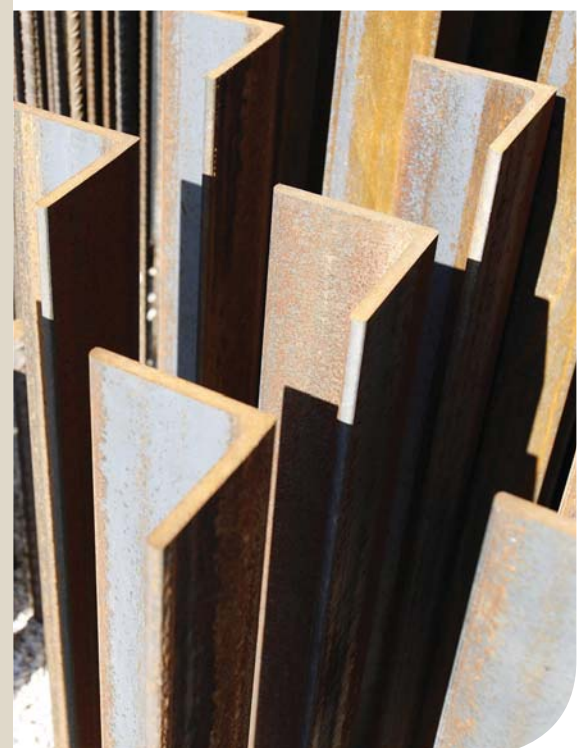
Wind Energy

Wind speeds increase at higher altitudes and can significantly improve wind-energy efficiency. The height of tubular towers is limited to approximately 300-feet because of structural and logistic issues while the tallest wind tower in the world is a 2.5 MW lattice tower wind turbine in Germany and rises 525-ft (673-ft including the rotor tips) using 10-inch equal leg angles L10"x10"x1¹/₈" in square profile. Because of its higher moment of inertia, this square L10" structure can be replaced by a butterfly L12"x12"x1³/₈" thus reducing weight by approx 30%.

Also, due to their transparency, trusses are much less visible to wind loads avoiding potentially costly wind-induced resonance problems which often are the result of thick-walled, heavy tubular structures. Higher lattice tower also enables easier logistics and opens new fields for wind farming such as forests and hilly landscape.



Wind Power Mill - (C) Conferdo GmbH



sections.arcelormittal.com



American equal leg angles

Dimensions : pending ASTM A 6/A 6M-12

Tolerances : per ASTM A6 +/- 1/4 in. on leg length except L 12" +1/4 / -3/8 in.

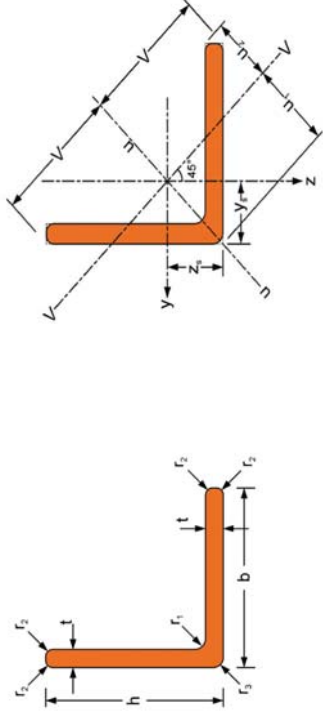
Surface condition : according to ASTM A 6/A 6M - 11

Lengths up to 80 ft., standards 40 ft. and 60 ft.

Grades : ASTM A 992/A 572 : Grade 50, Grade 60

ASTM A 36

G40.21: Grade 350W, Grade 400 W



Designation	Dimensions						Position of axes				Surface		Section properties								
	G	h = b	t	r ¹	r ²	r ³	A	z _s =y _s	v	u ₁	u ₂	A _L	A _C	axis y-y / axis z-z		axis u-u		axis v-v			
	lbs/ft	in.	in.	in.	in.	in.	in. ²	in.	in.	in.	in.	ft ² /ft	ft ² /lbs	I _y =I _z	W _{ely} =W _{elz}	I _y =I _z	I _u	I _v	i _u	i _v	I _{yz}
L 254 x 254 x 19.1	49,1	10	0,750	0,709	0,354	0,118	14,4	2,75	7,07	3,88	3,72	0,314	0,006	137,2	18,91	3,08	218,4	56,0	3,89	1,97	-81,15
L 254 x 254 x 22.2	56,9	10	0,875	0,709	0,354	0,118	16,7	2,80	7,07	3,96	3,73	0,316	0,006	157,6	21,88	3,07	250,7	64,5	3,87	1,96	-93,10
L 254 x 254 x 25.4	64,7	10	1,000	0,709	0,354	0,118	19,0	2,85	7,07	4,02	3,75	0,318	0,005	177,3	24,78	3,05	281,8	72,8	3,85	1,96	-104,5
L 254 x 254 x 28.6	72,3	10	1,125	0,709	0,354	0,118	21,2	2,89	7,07	4,09	3,77	0,320	0,004	196,2	27,61	3,04	311,6	80,9	3,83	1,95	-115,3
L 254 x 254 x 31.8	79,9	10	1,250	0,709	0,354	0,118	23,5	2,93	7,07	4,15	3,81	0,322	0,004	215,1	30,43	3,03	340,7	89,4	3,81	1,95	-125,6
L 254 x 254 x 34.9	87,1	10	1,375	0,709	0,354	0,118	25,6	2,99	7,07	4,22	3,82	0,324	0,004	232,1	33,10	3,01	367,5	96,7	3,79	1,94	-135,4
L 305 x 305 x 25.4	77,8	12	1,000	0,709	0,50	0,591	22,9	3,33	8,49	4,71	4,48	0,376	0,005	310,4	35,81	3,68	494,8	126,0	4,65	2,35	-184,4
L 305 x 305 x 28.6	87,2	12	1,125	0,709	0,50	0,591	25,6	3,39	8,49	4,80	4,48	0,378	0,004	344,1	39,97	3,67	548,6	139,5	4,63	2,34	-204,5
L 305 x 305 x 31.8	96,4	12	1,250	0,709	0,50	0,591	28,3	3,44	8,49	4,86	4,50	0,380	0,004	377,5	44,10	3,66	601,4	153,7	4,61	2,33	-223,8
L 305 x 305 x 34.9	105	12	1,375	0,709	0,50	0,591	30,9	3,49	8,49	4,93	4,53	0,382	0,004	410,0	48,16	3,64	652,4	167,6	4,59	2,33	-242,4

r₁, r₂, r₃ = informative, typical
Min. order 45 T per section or upon agreement

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