

# Bennett Bolt Works, Inc.

Technical Data Sheet: ASTM A572

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This specification covers the standard requirements for Grades 42 [290], 50 [345], 55 [380], 60 [415], and 65 [450] of high-strength low-alloy columbium-vanadium structural steel shapes, plates, sheet piling, and bars for applications in bolted, welded, and riveted structures in bridges and buildings. The alloy shall conform to the required contents of columbium, vanadium, titanium, and nitrogen. Permissible values for the product thickness and size is given. Tensile requirements (including yield point, tensile strength, and minimum elongation) and alloy content are also specified.

Mechanical Requirements				
Grade	Yield min ksi	Tensile min ksi	Elongation min % in 8"	Elongation min % in 2"
42	42	60	20	24
50	50	65	18	21
55	55	70	17	20
60	60	75	16	18
65	65	80	15	17

Grade	Max Dia. (in)	Carbon (max%)	Manganese (max%)	Phosphorus (max%)	Sulfur (max%)	Silicon (max%)
42	6	0.21	1.35	0.04	0.05	0.4
50	4	0.23	1.35	0.04	0.05	0.4
55	2	0.25	1.35	0.04	0.05	0.4
60	1/1/2004	0.26	1.35	0.04	0.05	0.4
65	½ to 1-1/4	0.23	1.65	0.04	0.05	0.4
65	Below ½	0.26	1.35	0.04	0.05	0.4

Type	Elements	Heat Analysis, %
1	Columbium	0.005 – 0.05
2	Vanadium	0.01 – 0.15
3	Columbium	0.005 – 0.05
	Vanadium	0.01 – 0.15
	Columbium plus Vanadium	0.02 – 0.15
5	Titanium	0.006 – 0.04
	Nitrogen	0.003 – 0.015
	Vanadium	0.06 max