

Required Tension Table

Below is a table listing some required load values based on the diameter and grade of the bolts. For example, a 1-inch grade A325 bolt should be tightened so that it creates a load on the joint of 51 kips or 51,000 pounds. A 1-inch A490 bolt should be tightened to 64 kips or 64,000 pounds.

Note that some specifications described in the following content may not be the same as the specifications followed by your agency. Always check with your State agency's standards and specifications when using these guidelines.

	Bolt Diam.	A325	A490
AASHTO Table 11.5A	1/2 in.	12 kips	15 kips
	5/8	19	24
	3/4	28	35
	7/8	39	49
	1	51	64
	1-1/8	56	80
	1-1/4	71	102
	1-3/8	85	121
	1-1/2	103	148