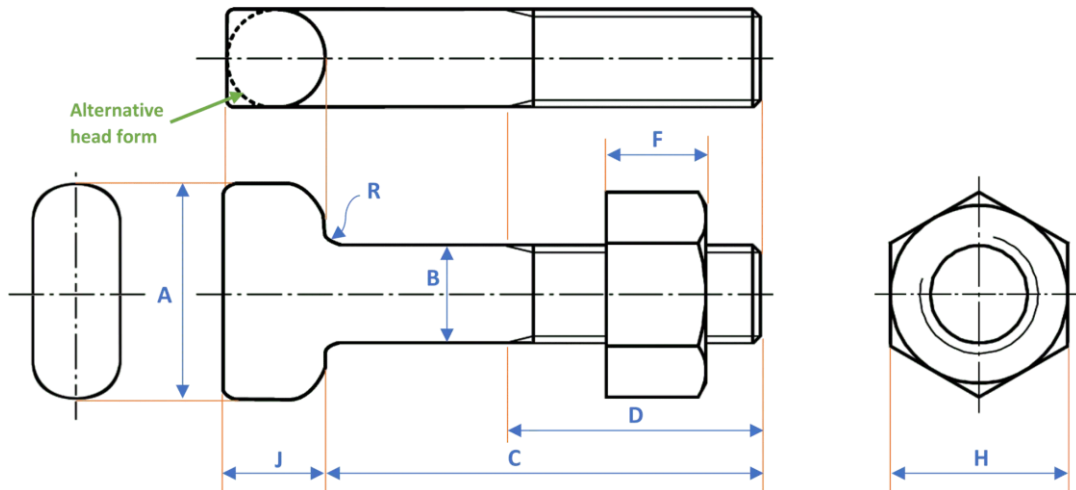


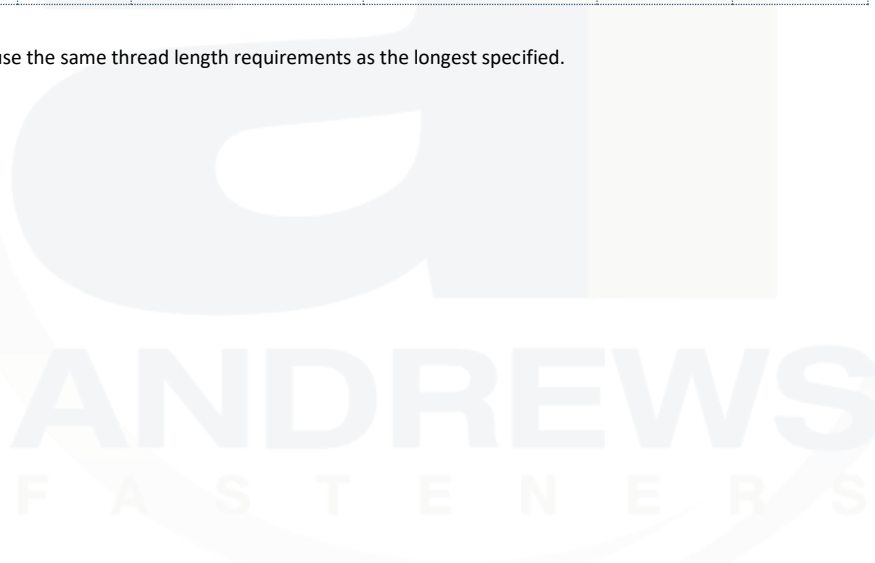
Technical specification for T-head bolts (ANSI/AWWA C111/A21.11)



Dimensions of T-head (tee-head) bolt and nut

Size <i>in.</i>	A $\pm 0,05$	B $+0,030$ $-0,074$	C $+0,25$ $-0,05$	D* $+3$ -0	F	H $+0,00$ $-(\text{as spec.})$	J $+0,15$ $-0,03$	R max.
$\frac{5}{8} \times 3$	1,50	0,625	3,0	2,00	$0,625 \pm 0,04$	$1,062 - 0,04$	0,625	0,312
$\frac{3}{4} \times 3\frac{1}{2}$	1,75	0,750	3,5	2,50	$0,750 \pm 0,06$	$1,250 - 0,06$	0,750	0,375
$\frac{3}{4} \times 4$	1,75	0,750	4,0	3,00	$0,750 \pm 0,06$	$1,250 - 0,06$	0,750	0,375
$\frac{3}{4} \times 4\frac{1}{2}$	1,75	0,750	4,5	3,00	$0,750 \pm 0,06$	$1,250 - 0,06$	0,750	0,375
$\frac{3}{4} \times 5$	1,75	0,750	5,0	3,00	$0,750 \pm 0,06$	$1,250 - 0,06$	0,750	0,375
$1 \times 5\frac{1}{2}$	2,25	1,000	5,5	3,00	$1,000 \pm 0,08$	$1,625 - 0,08$	1,000	0,500
1×6	2,25	1,000	6,0	3,00	$1,000 \pm 0,08$	$1,625 - 0,08$	1,000	0,500
$1\frac{1}{4} \times 6$	2,50	1,250	6,0	3,50	$1,250 \pm 0,08$	$2,000 - 0,08$	1,250	0,625
$1\frac{1}{4} \times 6\frac{1}{2}$	2,50	1,250	6,5	3,5	$1,250 \pm 0,08$	$2,000 - 0,08$	1,250	0,625

*) Bolts with dimension C longer than listed above are assumed to use the same thread length requirements as the longest specified.



Chemical Properties

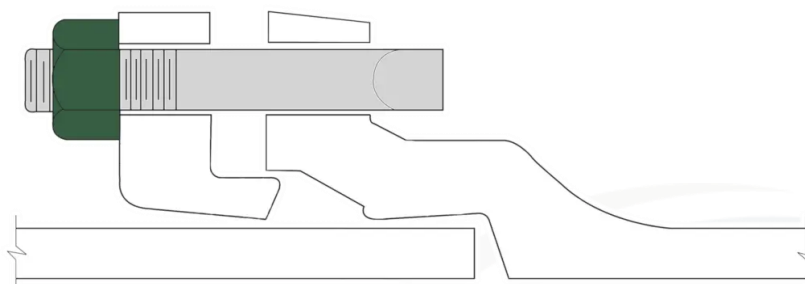
Component:	C	Mn	S	Ni	Cu	Ni+Cu+Cr
Min.	-	-	-	0,25	0,20	1,25
Max.	0,20	1,25	0,05	-	-	-

Mechanical Properties

Minimum yield strenght	45,000 psi (310 MPa)
Minimum elongation in 2 in.	20 %

Proof Load of bolt and nut

Bolt Size in.	Load (kN)	Load lbf
5/8	40,0	9 000
3/4	60,0	13 500
1	111,2	25 000
1 1/4	177,9	40 000



Torque Loads

Pipe size nom. in.	Bolt Size in.	Range of Torque (Nm)	Range of Torque lbf/ft	Length of Wrench in.	Length of Wrench* (mm)
3	5/8	61-81	45-60	8	203
4-24	3/4	102-122	75-90	10	254
30-36	1	136-163	100-120	14	256
42-48	1 1/4	163-203	120-150	16	406

*Applied with torque-measuring or torque-indicating wrenches.

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