

**NF A49-643-87 STEEL TUBES ROUND SQUARE AND RECTANGULAR STEEL TUBES FOR ORDINARY LONGITUDINALLY PRESSURE
WELDED AND COLD FORMED FROM FLAT PRODUCTS**

1. Chemical Composition

Grade	Mfg. Process	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Others
TS30-1	W	0.11Max	0.40Max	0.50Max	0.050Max	0.050Max	-	-	N 0.009Max	AL 0.08Max
TS30-2	W	0.11Max	0.40Max	0.50Max	0.045Max	0.045Max	-	-	N 0.009Max	AL 0.08Max
TS34-2	W	0.14Max	0.40Max	0.50Max	0.045Max	0.045Max	-	-	N 0.009Max	AL 0.08Max
TS37-2	W	0.15Max	0.40Max	0.70Max	0.045Max	0.045Max	-	-	N 0.009Max	AL 0.08Max
TS42-2	W	0.18Max	0.40Max	1.00Max	0.045Max	0.045Max	-	-	N 0.009Max	AL 0.08Max
TS47-2	W	0.20Max	0.40Max	1.20Max	0.045Max	0.045Max	-	-	N 0.009Max	AL 0.08Max
TS335D	W	0.12Max	0.40Max	1.50Max	0.030Max	0.030Max	-	-	N 0.009Max	AL 0.08Max
TS390D	W	0.12Max	0.40Max	1.50Max	0.030Max	0.030Max	-	-	N 0.009Max	AL 0.08Max
TS445D	W	0.12Max	0.40Max	1.60Max	0.030Max	0.030Max	-	-	N 0.009Max	AL 0.08Max

2. Mechanical Properties

Grade	Tensile Test MPa or N/mm ²		Remarks (Similar to JIS)
	Min Yield point	Tensile Strength	
TS30-1	-	-	-
TS30-2	190	310	(STK290)
TS34-2	200	330	(STK290)
TS37-2	235	360	-
TS42-2	255	410	(STK410)
TS47-2	275	470	(STK490)
TS335D	335	370	-
TS390D	390	420	-
TS445D	445	480	-

JIS Number and Corresponding Foreign Standards

[illegible]