

NF A49-541-86 STEEL TUBES COLD FINISHED WELDED STRUCTURAL HOLLOW SECTIONS**1. Chemical Composition**

Grade	Mfg. Process	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Others
TSE235-2	W	0.20Max	0.40Max	1.10Max	0.050Max	0.050Max	-	-	-	N: 0.009Max
TSE235-3	W	0.18Max	0.40Max	1.20Max	0.045Max	0.045Max	-	-	-	N: 0.009Max
TSE235-4	W	0.18Max	0.40Max	1.20Max	0.040Max	0.040Max	-	-	-	N: 0.009Max
TSE275-2	W	0.22Max	0.40Max	1.20Max	0.050Max	0.050Max	-	-	-	N: 0.009Max
TSE275-3	W	0.20Max	0.40Max	1.20Max	0.045Max	0.045Max	-	-	-	N: 0.009Max
TSE275-4	W	0.20Max	0.40Max	1.20Max	0.040Max	0.040Max	-	-	-	N: 0.009Max

2. Mechanical Properties

Grade	Tensile Test MPa or N/mm ²		Remarks (Similar to JIS)
	Min Yield point	Tensile Strength	
TSE235-2	t 3.2mmMax 250 t>3.2mm 235	360~480	Impact Test +20℃,35
TSE235-3	t 3.2mmMax 250 t>3.2mm 230	360~480	Impact Test 0℃,35
TSE235-4	t 3.2mmMax 250 t>3.2mm 230	360~480	Impact Test -20℃,35
TSE275-2	t 3.2mmMax 290 t>3.2mm 275	410~550	Impact Test +20℃,35
TSE275-3	t 3.2mmMax 290 t>3.2mm 275	410~550	Impact Test 0℃,35
TSE275-4	t 3.2mmMax 290 t>3.2mm 275	410~550	Impact Test -20℃,35