

DIN 17124-86 CARBON AND FERRITIC ALLOY STEEL FORGED AND BORED PIPE FOR HIGH TEMPERATURE SERVICE**1. Field of application**

1.1 This standard applies to seamless circular tubes made from the fine grain structural steels listed in table 1. These tubes are used in structural steel work (as in building and civil engineering, tubular steel construction, bridge and crane construction, etc.) They are not intended to withstand internal or external pressures.

1.2 This standard does not apply to seamless circular fine grain structural steel tubes subject to special requirements as specified in DIN 17179

Grade	Mfg. Process	Chemical composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Others
StE255	S	0.18Max	0.40Max	0.50~1.30	0.035Max	0.030Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.03Max Nb+Ti+V 0.05Max
TStE255	S	0.16Max	0.40Max	0.50~1.30	0.030Max	0.025Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.03Max Nb+Ti+V 0.05Max
ESTe255	S	0.16Max	0.40Max	0.50~1.30	0.025Max	0.015Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.03Max Nb+Ti+V 0.05Max
StE285	S	0.18Max	0.40Max	0.60~1.40	0.035Max	0.030Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.03Max Nb+Ti+V 0.05Max
TStE285	S	0.16Max	0.40Max	0.60~1.40	0.030Max	0.025Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max

										Nb : 0.03Max Nb+Ti+V 0.05Max
EStE285	S	0.16Max	0.40Max	0.60~1.40	0.025Max	0.015Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.03Max Nb+Ti+V 0.05Max
StE355	S	0.20Max	0.10~0.50	0.90~1.65	0.035Max	0.030Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.10Max Nb+Ti+V 0.12Max
TStE355	S	0.18Max	0.10~0.50	0.90~1.65	0.030Max	0.025Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.10Max Nb+Ti+V 0.12Max
EStE355	S	0.18Max	0.10~0.50	0.90~1.65	0.025Max	0.015Max	0.30Max	0.30Max	0.08Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.10Max Nb+Ti+V 0.12Max
StE420	S	0.20Max	0.10~0.60	1.00~1.70	0.035Max	0.030Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max

TStE420	S	0.20Max	0.10~0.60	1.00~1.70	0.030Max	0.025Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max
ESTe420	S	0.20Max	0.10~0.60	1.00~1.70	0.025Max	0.015Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max
STe460	S	0.20Max	0.10~0.60	1.00~1.70	0.035Max	0.030Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max
TStE460	S	0.20Max	0.10~0.60	1.00~1.70	0.030Max	0.025Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max
ESTe460	S	0.20Max	0.10~0.60	1.00~1.70	0.025Max	0.015Max	1.00Max	0.30Max	0.10Max	N 0.020Max Al: 0.020Max Cu : 0.20Max Nb : 0.05Max V : 0.20Max Nb+Ti+V 0.12Max

Grade	Tensile Test MPa or N/mm ²		Remarks (Similar to JIS)
	Min Yield point	Tensile Strength	
StE255	t 12mmMax 255 12mm<t 20mmMax 255 20mm<t 40mmMax 245 40mm<t 50mmMax 235 50mm<t 65mmMax 225	360~480	-
TStE255	t 12mmMax 255 12mm<t 20mmMax 255 20mm<t 40mmMax 245 40mm<t 50mmMax 235 50mm<t 65mmMax 225	360~480	-
EStE255	t 12mmMax 255 12mm<t 20mmMax 255 20mm<t 40mmMax 245 40mm<t 50mmMax 235 50mm<t 65mmMax 225	360~480	-
StE285	t 12mmMax 285 12mm<t 20mmMax 285 20mm<t 40mmMax 275 40mm<t 50mmMax 265 50mm<t 65mmMax 255	390~510	STK400
TStE285	t 12mmMax 285 12mm<t 20mmMax 285 20mm<t 40mmMax 275 40mm<t 50mmMax 265 50mm<t 65mmMax 255	390~510	STK400
EStE285	t 12mmMax 285	390~510	STK400

	12mm<t 20mmMax 285 20mm<t 40mmMax 275 40mm<t 50mmMax 265 50mm<t 65mmMax 255		
STE355	t 12mmMax 355 12mm<t 20mmMax 355 20mm<t 40mmMax 345 40mm<t 50mmMax 335 50mm<t 65mmMax 325	490~639	STK500
TStE355	t 12mmMax 355 12mm<t 20mmMax 355 20mm<t 40mmMax 345 40mm<t 50mmMax 335 50mm<t 65mmMax 325	490~639	STK500
ESTE355	t 12mmMax 355 12mm<t 20mmMax 355 20mm<t 40mmMax 345 40mm<t 50mmMax 335 50mm<t 65mmMax 325	490~639	STK500
StE420	t 12mmMax 420 12mm<t 20mmMax 410 20mm<t 40mmMax 400 40mm<t 50mmMax 385 50mm<t 65mmMax 375	390~510	-
TStE420	t 12mmMax 420 12mm<t 20mmMax 410 20mm<t 40mmMax 400 40mm<t 50mmMax 385 50mm<t 65mmMax 375	530~680	-
ESTe420	t 12mmMax 420 12mm<t 20mmMax 410	530~680	-

	20mm< t 40mmMax 400 40mm< t 50mmMax 385 50mm< t 65mmMax 375		
StE460	t 12mmMax 460 12mm< t 20mmMax 450 20mm< t 40mmMax 440 40mm< t 50mmMax 425 50mm< t 65mmMax 410	560~730	-
TStE460	t 12mmMax 460 12mm< t 20mmMax 450 20mm< t 40mmMax 440 40mm< t 50mmMax 425 50mm< t 65mmMax 410	560~730	-
ESStE460	t 12mmMax 460 12mm< t 20mmMax 450 20mm< t 40mmMax 440 40mm< t 50mmMax 425 50mm< t 65mmMax 410	560~730	-