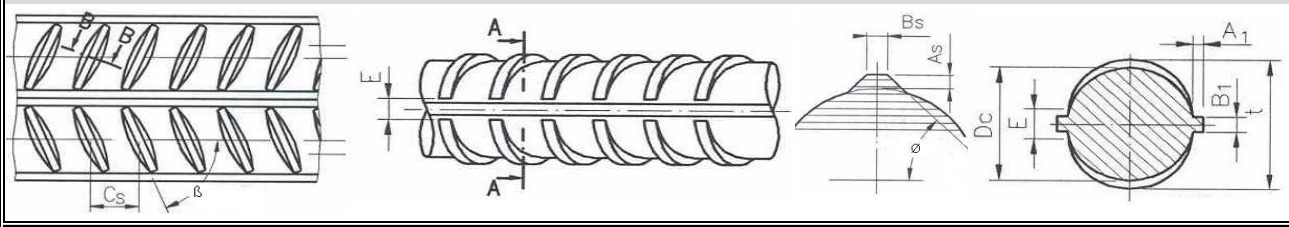
ÇEBİTAŞ DEMİR ÇELİK ENDÜSTRİSİ A.Ş.	COUNTRY:	STANDARD:	QUALITY:
	TURKEY	**TSE 708**	**B 420C**

RIB GEOMETRY



DEFORMATION REQUIREMENTS

			8	10	12	14	16	18	20	22	24	25	26	28	30	32	40	EXPLANATIONS
Cross sectional area (mm2)			50.3	78.5	113.0	154.0	201.0	254.4	314.0	380.0	452.2	491.0	531.0	616.0	706.5	804.0	1257.0	
Unit Weight (kg/m)		min	0.371	0.589	0.848	1.156	1.509	1.910	2.359	2.851	3.390	3.677	3.980	4.613	5.300	6.026	9.416	±6,0% ≤ 8mm ±4,5% > 8mm
		nom	0.395	0.617	0.888	1.210	1.580	2.000	2.470	2.985	3.550	3.850	4.168	4.830	5.550	6.310	9.860	
		max	0.419	0.645	0.928	1.264	1.651	2.090	2.581	3.119	3.710	4.023	4.356	5.047	5.800	6.594	10.304	
Transversal rib height	As	min	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.75	0.78	0.84	0.90	0.96	1.20	(Table: 8)
		max	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	3.60	3.75	3.90	4.20	4.50	4.80	6.00	
Transversal rib width	Bs	min																
		max																
Transversal rib space	Cs	min	3.20	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60	10.00	10.40	11.20	12.00	12.80	16.00	(Table: 8)
		max	9.60	12.00	14.40	16.80	19.20	21.60	24.00	26.40	28.80	30.00	31.20	33.60	36.00	38.40	48.00	
Rib-Tip distance	E	min																(Sec. 7.4.2.2)
		max	3.14	3.93	4.71	5.50	6.28	7.07	7.85	8.64	9.42	9.82	10.21	11.00	11.78	12.57	15.71	
Longitudinal rib height	A1	min																(Sec. 7.4.2.3)
		max	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	3.60	3.75	3.90	4.20	4.50	4.80	6.00	
Longitudinal Rib Width	B1	min																
		max																
Rib slope	ß	min	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	35°	(Table: 8)
		max	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	75°	
Rib angle	Ø	min	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	(Sec. 7.4.2.2)
		max																
Rib Area (mm2)	Fr	min	0.040	0.040	0.040	0.056	0.056	0.056	0.056	0.056	0.056	0.056	0.056	0.056	0.056	0.056	0.056	(Table: 9)
		max																
Diameter of mandrel for bend (mm)			5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	5d	180° bend.
Diameter of mandrel for re-bend (mm)																		

MECHANICAL REQUIREMENTS

					EXPLANATIONS
Yield Strength	R_e	MPa	min	**420**	
			max		
Tensile Strength	R_m	MPa	min		
			max		
Rm / Re			min	**1.15**	**Re act / Re nom < 1,30**
			max	**1.35**	
Uniform elongation	A_5	%	min	**12.0**	
			max		
Elongation to fracture	A_{gt}	%	min	**7.5**	
			max		

CHEMICAL REQUIREMENTS

		Heat %	Product %			Heat %	Product %	EXPLANATIONS
C	min			P	min			
0,	max	**22**	**24**	**0,0**	max	**50**	**55**	
Si	min			S	min			
0,	max			**0,0**	max	**50**	**55**	
Mn	min			N	min			
	max			**ppm**	max	**120**	**122**	
Cu	min			Ceq	min			Ceq=C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15
0,	max	**80**	**85**	**0,**	max	**50**	**52**	

MARKING