

Table 2A—PSL 1 Chemical Requirements for Heat and Product Analyses by Percentage of Weight

(1)	(2)	(3)	(4)		(5)	(6)	(7)
Grade & Class	Carbon, Maximum ^a	Manganese, Maximum ^a	Phosphorus		Sulfur, Maximum	Titanium, Maximum	Other
			Minimum	Maximum			
Seamless							
A25, Cl I	0.21	0.60		0.030	0.030		
A25, Cl II	0.21	0.60	0.045	0.080	0.030		
A	0.22	0.90		0.030	0.030		
B	0.28	1.20		0.030	0.030	0.04	b, c, d
X42	0.28	1.30		0.030	0.030	0.04	c, d
X46, X52, X56	0.28	1.40		0.030	0.030	0.04	c, d
X60 ^f	0.28	1.40		0.030	0.030	0.04	c, d
X65 ^f , X70 ^f	0.28	1.40		0.030	0.030	0.06	c, d
Welded							
A25, Cl I	0.21	0.60		0.030	0.030		
A25, Cl II	0.21	0.60	0.045	0.080	0.030		
A	0.22	0.90		0.030	0.030		
B	0.26	1.20		0.030	0.030	0.04	b, c, d
X42	0.26	1.30		0.030	0.030	0.04	c, d
X46, X52, X56	0.26	1.40		0.030	0.030	0.04	c, d
X60 ^f	0.26	1.40		0.030	0.030	0.04	c, d
X65 ^f	0.26	1.45		0.030	0.030	0.06	c, d
X70 ^f	0.26	1.65		0.030	0.030	0.06	c, d

Table 2B—PSL 2 Chemical Requirements for Heat and Product Analyses by Percentage of Weight

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grade	Carbon, Maximum ^a	Manganese, Maximum ^a	Phosphorus, Maximum	Sulfur, Maximum	Titanium, Maximum	Other
Seamless						
B	0.24	1.20	0.025	0.015	0.04	c, d, e
X42	0.24	1.30	0.025	0.015	0.04	c, d
X46, X52, X56, X60 ^f	0.24	1.40	0.025	0.015	0.04	c, d
X65 ^f , X70 ^f X80 ^f	0.24	1.40	0.025	0.015	0.06	c, d
Welded						
B	0.22	1.20	0.025	0.015	0.04	c, d, e
X42	0.22	1.30	0.025	0.015	0.04	c, d
X46, X52, X56	0.22	1.40	0.025	0.015	0.04	c, d
X60 ^f	0.22	1.40	0.025	0.015	0.04	c, d
X65 ^f	0.22	1.45	0.025	0.015	0.06	c, d
X70 ^f	0.22	1.65	0.025	0.015	0.06	c, d
X80 ^f	0.22	1.85	0.025	0.015	0.06	c, d

Footnotes to Tables 2A and 2B:

^aFor each reduction of 0.01% below the specified maximum carbon content, an increase of 0.05% above the specified maximum manganese content is permissible, up to a maximum of 1.50% for Grades X42 through X52, up to a maximum of 1.65% for grades higher than X52 but less than X70, and up to 2.00% for Grades X70 and higher.

^bThe sum of columbium [niobium] and vanadium contents shall not exceed 0.03%, except that, by agreement between the purchaser and the manufacturer, an alternative maximum may be established.

^cColumbium [niobium], vanadium, or combinations thereof may be used at the discretion of the manufacturer.

^dThe sum of the columbium [niobium], vanadium, and titanium contents shall not exceed 0.15%.

^eThe sum of the columbium [niobium], and vanadium contents shall not exceed 0.06% except that, by agreement between the purchaser and the manufacturer, an alternative maximum may be established.

^fOther chemical compositions may be furnished by agreement between purchaser and manufacturer, providing that the limits of footnote d, and the tabular limits for phosphorus and sulfur are met.