ALLOY STEEL COMPOSITIONS

THE INTERNATIONAL NICKEL COMPANY, INC.
One New York Plaza, New York, N.Y. 10004

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Alloy Steel Compositions

Key to Print Type — Tables I to IV

- **Bold Face:** Standard Steels (1978)
  Light Face: Nickel Steels formerly Standard
  Italics: SAE Temporary Steel Numbers

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Notes — Tables I to IV

1. Prefix letter E is for basic electric furnace steel. All others normally are made by the basic open hearth or basic oxygen processes.
2. Silicon range is 0.20-0.35%, except silicon minimum is 0.15% for acid open hearth or acid electric furnace alloy steel. Phosphorus and sulfur limitations for each process follow:

	Maximum, %	
	P	S
Basic electric	.025	.025
Basic open hearth or basic oxygen	.035	.040
Acid electric	.050	.050
Acid open hearth	.050	.050

   Incidental elements, not specified, are acceptable to the following max amounts: copper to 0.35%, nickel to 0.25%, chromium to 0.20%, and molybdenum to .06%.
3. The boron steels can be expected to contain .0005% min boron.

Table I

ALLOY STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
1320	0.18-0.23	1.60-1.90	—	—	—	—
•1330	0.28-0.33	1.60-1.90	—	—	—	—
•1335	0.33-0.38	1.60-1.90	—	—	—	—
•1340	0.38-0.43	1.60-1.90	—	—	—	—
•1345	0.43-0.48	1.60-1.90	—	—	—	—
2317	0.15-0.20	0.40-0.60	3.25-3.75	—	—	—
2330	0.28-0.33	0.60-0.80	3.25-3.75	—	—	—
2335	0.33-0.38	0.60-0.80	3.25-3.75	—	—	AISI only
2340	0.38-0.43	0.70-0.90	3.25-3.75	—	—	—
2345	0.43-0.48	0.70-0.90	3.25-3.75	—	—	—
E2512	.09-0.14	0.45-0.60[b]	4.75-5.25	—	—	SAE No. 2512
2515	0.12-0.17	0.40-0.60	4.75-5.25	—	—	—
E2517	0.15-0.20	0.45-0.60[b]	4.75-5.25	—	—	SAE No. 2517
3115	0.13-0.18	0.40-0.60	1.10-1.40	0.55-0.75	—	—
3120	0.17-0.22	0.60-0.80	1.10-1.40	0.55-0.75	—	—
3130	0.28-0.33	0.60-0.80	1.10-1.40	0.55-0.75	—	—
3135	0.33-0.38	0.60-0.80	1.10-1.40	0.55-0.75	—	—
3140	0.38-0.43	0.70-0.90	1.10-1.40	0.55-0.75	—	—
3141	0.38-0.43	0.70-0.90	1.10-1.40	0.70-0.90	—	—
3145	0.43-0.48	0.70-0.90	1.10-1.40	0.70-0.90	—	—
3150	0.48-0.53	0.70-0.90	1.10-1.40	0.70-0.90	—	—
3240	0.35-0.45	0.30-0.60	1.50-2.00	0.90-1.25	—	—
E3310	.08-0.13	0.45-0.60[b]	3.25-3.75	1.40-1.75	—	SAE No. 3310
E3316	0.14-0.19	0.45-0.60[b]	3.25-3.75	1.40-1.75	—	SAE No. 3316
•4012[a]	.09-0.14	0.75-1.00	—	—	0.15-0.25	—
•4023	0.20-0.25	0.70-0.90	—	—	0.20-0.30	—
•4024	0.20-0.25	0.70-0.90	—	—	0.20-0.30	S .035-.050
•4027	0.25-0.30	0.70-0.90	—	—	0.20-0.30	—
•4028	0.25-0.30	0.70-0.90	—	—	0.20-0.30	S .035-.050
•4032[a]	0.30-0.35	0.70-0.90	—	—	0.20-0.30	—
•4037	0.35-0.40	0.70-0.90	—	—	0.20-0.30	—
•4042[a]	0.40-0.45	0.70-0.90	—	—	0.20-0.30	—
•4047	0.45-0.50	0.70-0.90	—	—	0.20-0.30	—
•4118	0.18-0.23	0.70-0.90	—	0.40-0.60	.08-0.15	—
•4130	0.28-0.33	0.40-0.60	—	0.80-1.10	0.15-0.25	—
•4135[a]	0.33-0.38	0.70-0.90	—	0.80-1.10	0.15-0.25	—
•4137	0.35-0.40	0.70-0.90	—	0.80-1.10	0.15-0.25	—
•4140	0.38-0.43	0.75-1.00	—	0.80-1.10	0.15-0.25	—
•4142	0.40-0.45	0.75-1.00	—	0.80-1.10	0.15-0.25	—
•4145	0.43-0.48	0.75-1.00	—	0.80-1.10	0.15-0.25	—
•4147	0.45-0.50	0.75-1.00	—	0.80-1.10	0.15-0.25	—
•4150	0.48-0.53	0.75-1.00	—	0.80-1.10	0.15-0.25	—

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

[b] For open hearth steel the manganese is 0.40-0.60%.

Table I (continued)

ALLOY STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
•4161	0.56-0.64	0.75-1.00	—	0.70-0.90	0.25-0.35	—
4317	0.15-0.20	0.45-0.65	1.65-2.00	0.40-0.60	0.20-0.30	—
•4320	0.17-0.22	0.45-0.65	1.65-2.00	0.40-0.60	0.20-0.30	—
4337	0.35-0.40	0.60-0.80	1.65-2.00	0.70-0.90	0.20-0.30	—
E4337	0.35-0.40	0.65-0.85	1.65-2.00	0.70-0.90	0.20-0.30	—
•4340	0.38-0.43	0.60-0.80	1.65-2.00	0.70-0.90	0.20-0.30	—
•E4340	0.38-0.43	0.65-0.85	1.65-2.00	0.70-0.90	0.20-0.30	—
•4419[a]	0.18-0.23	0.45-0.65	—	—	0.45-0.60	—
•4422[a]	0.20-0.25	0.70-0.90	—	—	0.35-0.45	—
•4427[a]	0.24-0.29	0.70-0.90	—	—	0.35-0.45	—
4608	.06-0.11	0.25-0.45	1.40-1.75	—	0.15-0.25	Si 0.25 max
•4615	0.13-0.18	0.45-0.65	1.65-2.00	—	0.20-0.30	—
•4617[a]	0.15-0.20	0.45-0.65	1.65-2.00	—	0.20-0.30	—
•4620	0.17-0.22	0.45-0.65	1.65-2.00	—	0.20-0.30	—
X4620	0.18-0.23	0.50-0.70	1.65-2.00	—	0.20-0.30	—
•4621[a]	0.18-0.23	0.70-0.90	1.65-2.00	—	0.20-0.30	—
4640	0.38-0.43	0.60-0.80	1.65-2.00	—	0.20-0.30	—
•4626	0.24-0.29	0.45-0.65	0.70-1.00	—	0.15-0.25	—
•4718[a]	0.16-0.21	0.70-0.90	0.90-1.20	0.35-0.55	0.30-0.40	—
•4720	0.17-0.22	0.50-0.70	0.90-1.20	0.35-0.55	0.15-0.25	—
4812	0.10-0.15	0.40-0.60	3.25-3.75	—	0.20-0.30	—
•4815	0.13-0.18	0.40-0.60	3.25-3.75	—	0.20-0.30	—
•4817	0.15-0.20	0.40-0.60	3.25-3.75	—	0.20-0.30	—
•4820	0.18-0.23	0.50-0.70	3.25-3.75	—	0.20-0.30	—
•5015	0.12-0.17	0.30-0.50	—	0.30-0.50	—	—
•5046[a]	0.43-0.50	0.75-1.00	—	0.20-0.35	—	—
•5060[a]	0.56-0.64	0.75-1.00	—	0.40-0.60	—	—
•5115[a]	0.13-0.18	0.70-0.90	—	0.70-0.90	—	—
5117	0.15-0.20	0.70-0.90	—	0.70-0.90	—	—
•5120	0.17-0.22	0.70-0.90	—	0.70-0.90	—	—
•5130	0.28-0.33	0.70-0.90	—	0.80-1.10	—	—
•5132	0.30-0.35	0.60-0.80	—	0.75-1.00	—	—
•5135	0.33-0.38	0.60-0.80	—	0.80-1.05	—	—
•5140	0.38-0.43	0.70-0.90	—	0.70-0.90	—	—
•5145[a]	0.43-0.48	0.70-0.90	—	0.70-0.90	—	—
•5147[a]	0.46-0.51	0.70-0.95	—	0.85-1.15	—	—
•5150	0.48-0.53	0.70-0.90	—	0.70-0.90	—	—
•5155	0.51-0.59	0.70-0.90	—	0.70-0.90	—	—
•5160	0.56-0.64	0.75-1.00	—	0.70-0.90	—	—
•E50100[a]	0.95-1.10	0.25-0.45	—	0.40-0.60	—	—
•E51100	0.98-1.10	0.25-0.45	—	0.90-1.15	—	—
•E52100	0.98-1.10	0.25-0.45	—	1.30-1.60	—	—

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

Table I (continued)

ALLOY STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
•6118	0.16-0.21	0.50-0.70	—	0.50-0.70	—	V 0.10-0.15
•6150	0.48-0.53	0.70-0.90	—	0.80-1.10	—	V 0.15 min
•8115[a]	0.13-0.18	0.70-0.90	0.20-0.40	0.30-0.50	.08-0.15	—
•8615	0.13-0.18	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8617	0.15-0.20	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8620	0.18-0.23	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8622	0.20-0.25	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8625	0.23-0.28	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8627	0.25-0.30	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
•8630	0.28-0.33	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
8632	0.30-0.35	0.70-0.90	0.40-0.70	0.40-0.60	0.15-0.25	—
8635	0.33-0.38	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
•8637	0.35-0.40	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
•8640	0.38-0.43	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
8641	0.38-0.43	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	S .040-.060
•8642	0.40-0.45	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
•8645	0.43-0.48	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
8647	0.45-0.50	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
•8650[a]	0.48-0.53	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
8653	0.50-0.56	0.75-1.00	0.40-0.70	0.50-0.80	0.15-0.25	—
•8655	0.51-0.59	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
•8660[a]	0.55-0.65	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25	—
8715	0.13-0.18	0.70-0.90	0.40-0.70	0.40-0.60	0.20-0.30	—
8717	0.15-0.20	0.70-0.90	0.40-0.70	0.40-0.60	0.20-0.30	—
•8720	0.18-0.23	0.70-0.90	0.40-0.70	0.40-0.60	0.20-0.30	—
8735	0.33-0.38	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	—
•8740	0.38-0.43	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	—
8742	0.40-0.45	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	—
8745	0.43-0.48	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	—
8747	0.45-0.50	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	AISI only
8750	0.48-0.53	0.75-1.00	0.40-0.70	0.40-0.60	0.20-0.30	—
•8822	0.20-0.25	0.75-1.00	0.40-0.70	0.40-0.60	0.30-0.40	—
•9254[a]	0.50-0.60	0.50-0.80	—	—	—	Si 1.20-1.60
•9255[a]	0.51-0.59	0.70-0.95	—	—	—	Si 1.80-2.20
•9260	0.56-0.64	0.75-1.00	—	—	—	Si 1.80-2.20
•E9310[a]	.08-0.13	0.45-0.65	3.00-3.50	1.00-1.40	.08-0.15	—
E9314	0.11-0.17	0.40-0.70	3.00-3.50	1.00-1.40	.08-0.15	AISI only
E9315	0.13-0.18	0.45-0.65	3.00-3.50	1.00-1.40	.08-0.15	—
E9317	0.15-0.20	0.45-0.65	3.00-3.50	1.00-1.40	.08-0.15	—
9747	0.45-0.50	0.50-0.80	0.40-0.70	0.10-0.25	0.15-0.25	—

a Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

Table I (continued)

ALLOY STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
9763	0.60-0.67	0.50-0.80	0.40-0.70	0.10-0.25	0.15-0.25	—
9840	0.38-0.43	0.70-0.90	0.85-1.15	0.70-0.90	0.20-0.30	—
9845	0.43-0.48	0.70-0.90	0.85-1.15	0.70-0.90	0.20-0.30	—
9850	0.48-0.53	0.70-0.90	0.85-1.15	0.70-0.90	0.20-0.30	—
EX-10[a]	0.19-0.24	0.95-1.25	0.20-0.40	0.25-0.40	.05-0.10	—
EX-30[a]	0.13-0.18	0.70-0.90	0.70-1.00	0.45-0.65	0.45-0.60	—
EX-31[a]	0.15-0.20	0.70-0.90	0.70-1.00	0.45-0.65	0.45-0.60	—
EX-32[a]	0.18-0.23	0.70-0.90	0.70-1.00	0.45-0.65	0.45-0.60	—
EX-33[a]	0.17-0.24	0.85-1.25	0.20 min	0.20 min	.05 min	—
EX-55[a]	0.15-0.20	0.70-1.00	1.65-2.00	0.45-0.65	0.65-0.80	—
EX-56[a]	.08-0.13	0.70-1.00	1.65-2.00	0.45-0.65	0.65-0.80	—

[a] SAE Temporary Steel Number.

Table II

BORON ALLOY STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %				
	C	Mn	Ni	Cr	Mo
46B12	0.10-0.15	0.45-0.65	1.65-2.00	—	0.20-0.30
•**50B40**[a]	0.38-0.43	0.75-1.00	—	0.40-0.60	—
•**50B44**	0.43-0.48	0.75-1.00	—	0.40-0.60	—
•**50B46**	0.44-0.49	0.75-1.00	—	0.20-0.35	—
•**50B50**	0.48-0.53	0.75-1.00	—	0.40-0.60	—
•**50B60**	0.56-0.64	0.75-1.00	—	0.40-0.60	—
•**51B60**	0.56-0.64	0.75-1.00	—	0.70-0.90	—
•**81B45**	0.43-0.48	0.75-1.00	0.20-0.40	0.35-0.55	.08-0.15
•**86B45**[a]	0.43-0.48	0.75-1.00	0.40-0.70	0.40-0.60	0.15-0.25
•**94B15**[a]	0.13-0.18	0.75-1.00	0.30-0.60	0.30-0.50	.08-0.15
•**94B17**	0.15-0.20	0.75-1.00	0.30-0.60	0.30-0.50	.08-0.15
•**94B30**	0.28-0.33	0.75-1.00	0.30-0.60	0.30-0.50	.08-0.15
94B40	0.38-0.43	0.75-1.00	0.30-0.60	0.30-0.50	.08-0.15

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

Table III

H-STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
•1330H	0.27-0.33	1.45-2.05	—	—	—	—
•1335H	0.32-0.38	1.45-2.05	—	—	—	—
•1340H	0.37-0.44	1.45-2.05	—	—	—	—
•1345H	0.42-0.49	1.45-2.05	—	—	—	—
2330H	0.27-0.34	0.55-0.85	3.20-3.80	—	—	—
2512H	.08-0.15	0.35-0.65	4.70-5.30	—	—	—
2515H	0.12-0.18	0.30-0.70	4.70-5.30	—	—	—
2517H	0.14-0.20	0.30-0.70	4.70-5.30	—	—	—
3120H	0.17-0.23	0.50-0.90	1.00-1.45	0.45-0.85	—	—
3130H	0.27-0.33	0.50-0.90	1.00-1.45	0.45-0.85	—	—
3135H	0.32-0.38	0.50-0.90	1.00-1.45	0.45-0.85	—	—
3140H	0.37-0.44	0.60-1.00	1.00-1.45	0.45-0.85	—	—
3310H	.07-0.13	0.30-0.70	3.20-3.80	1.30-1.80	—	—
3316H	0.13-0.19	0.30-0.70	3.20-3.80	1.30-1.80	—	—
•4027H	0.24-0.30	0.60-1.00	—	—	0.20-0.30	—
•4028H	0.24-0.30	0.60-1.00	—	—	0.20-0.30	S .035-.050
•4032H	0.29-0.35	0.60-1.00	—	—	0.20-0.30	—
•4037H	0.34-0.41	0.60-1.00	—	—	0.20-0.30	—
•4042H	0.39-0.46	0.60-1.00	—	—	0.20-0.30	—
•4047H	0.44-0.51	0.60-1.00	—	—	0.20-0.30	—
•4118H	0.17-0.23	0.60-1.00	—	0.30-0.70	.08-0.15	—
•4130H	0.27-0.33	0.30-0.70	—	0.75-1.20	0.15-0.25	—
•4135H	0.32-0.38	0.60-1.00	—	0.75-1.20	0.15-0.25	—
•4137H	0.34-0.41	0.60-1.00	—	0.75-1.20	0.15-0.25	—
•4140H	0.37-0.44	0.65-1.10	—	0.75-1.20	0.15-0.25	—
•4142H	0.39-0.46	0.65-1.10	—	0.75-1.20	0.15-0.25	—
•4145H	0.42-0.49	0.65-1.10	—	0.75-1.20	0.15-0.25	—
•4147H	0.44-0.51	0.65-1.10	—	0.75-1.20	0.15-0.25	—
•4150H	0.47-0.54	0.65-1.10	—	0.75-1.20	0.15-0.25	—
•4161H	0.55-0.65	0.65-1.10	—	0.65-0.95	0.25-0.35	—
4317H	0.14-0.21	0.40-0.70	1.50-2.00	0.35-0.65	0.20-0.30	—
•4320H	0.17-0.23	0.40-0.70	1.55-2.00	0.35-0.65	0.20-0.30	—
4337H	0.34-0.41	0.55-0.90	1.55-2.00	0.65-0.95	0.20-0.30	—
•4340H	0.37-0.44	0.55-0.90	1.55-2.00	0.65-0.95	0.20-0.30	—
•E4340H	0.37-0.44	0.60-0.95	1.55-2.00	0.65-0.95	0.20-0.30	—
•4419H[a]	0.17-0.23	0.35-0.75	—	—	0.45-0.60	—
•4620H	0.17-0.23	0.35-0.75	1.55-2.00	—	0.20-0.30	—
X4620H	0.17-0.23	0.40-0.80	1.55-2.00	—	0.20-0.30	—
•4621H	0.17-0.23	0.60-1.00	1.55-2.00	—	0.20-0.30	—
4640H	0.37-0.44	0.50-0.90	1.55-2.00	—	0.20-0.30	—

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

Table III (continued)

H-STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
•4626H	0.23-0.29	0.40-0.70	0.65-1.05	—	0.15-0.25	AISI only
•4718H[a]	0.15-0.21	0.60-0.95	0.85-1.25	0.30-0.60	0.30-0.40	—
•4720H	0.17-0.23	0.45-0.75	0.85-1.25	0.30-0.60	0.15-0.25	—
4812H	.09-0.15	0.30-0.70	3.20-3.80	—	0.20-0.30	—
•4815H	0.12-0.18	0.30-0.70	3.20-3.80	—	0.20-0.30	—
•4817H	0.14-0.20	0.30-0.70	3.20-3.80	—	0.20-0.30	—
•4820H	0.17-0.23	0.40-0.80	3.20-3.80	—	0.20-0.30	—
•5046H	0.43-0.50	0.65-1.10	—	0.13-0.43	—	—
•5120H	0.17-0.23	0.60-1.00	—	0.60-1.00	—	—
•5130H	0.27-0.33	0.60-1.00	—	0.75-1.20	—	—
•5132H	0.29-0.35	0.50-0.90	—	0.65-1.10	—	—
•5135H	0.32-0.38	0.50-0.90	—	0.70-1.15	—	—
•5140H	0.37-0.44	0.60-1.00	—	0.60-1.00	—	—
•5145H	0.42-0.49	0.60-1.00	—	0.60-1.00	—	—
•5147H[a]	0.45-0.52	0.60-1.05	—	0.80-1.25	—	—
•5150H	0.47-0.54	0.60-1.00	—	0.60-1.00	—	—
•5155H	0.50-0.60	0.65-1.10	—	0.60-1.00	—	—
•5160H	0.55-0.65	0.65-1.10	—	0.60-1.00	—	—
•6118H	0.15-0.21	0.40-0.80	—	0.40-0.80	—	V 0.10-0.15
•6150H	0.47-0.54	0.60-1.00	—	0.75-1.20	—	V 0.15 min
•8617H	0.14-0.20	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
•8620H	0.17-0.23	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
•8622H	0.19-0.25	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
•8625H	0.22-0.28	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
•8627H	0.24-0.30	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
•8630H	0.27-0.33	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
8632H	0.30-0.37	0.60-0.95	0.35-0.75	0.35-0.65	0.15-0.25	—
8635H	0.32-0.38	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8637H	0.34-0.41	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8640H	0.37-0.44	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
8641H	0.37-0.44	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	S .040-.060
•8642H	0.39-0.46	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8645H	0.42-0.49	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
8647H	0.44-0.52	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8650H[a]	0.47-0.54	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
8653H	0.49-0.56	0.70-1.05	0.35-0.75	0.50-0.85	0.15-0.25	—
•8655H	0.50-0.60	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8660H[a]	0.55-0.65	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25	—
•8720H	0.17-0.23	0.60-0.95	0.35-0.75	0.35-0.65	0.20-0.30	—
8735H	0.32-0.39	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

Table III (continued)

H-STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %					
	C	Mn	Ni	Cr	Mo	Others and Remarks
•**8740H**	0.37-0.44	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—
8742H	0.39-0.46	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—
8745H	0.42-0.50	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—
8747H	0.44-0.52	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—
8750H	0.47-0.54	0.70-1.05	0.35-0.75	0.35-0.65	0.20-0.30	—
•**8822H**	0.19-0.25	0.70-1.05	0.35-0.75	0.35-0.65	0.30-0.40	—
•**9260H**	0.55-0.65	0.65-1.10	—	—	—	Si 1.70-2.20
•**9310H**[a,b]	.07-0.13	0.40-0.70	2.95-3.55	1.00-1.45	.08-0.15	—
9437H	0.35-0.43	0.85-1.25	0.25-0.65	0.25-0.55	.08-0.15	—
9440H	0.37-0.45	0.85-1.25	0.25-0.65	0.25-0.55	.08-0.15	—
9442H	0.40-0.48	0.95-1.35	0.25-0.65	0.25-0.55	.08-0.15	—
9445H	0.42-0.50	0.95-1.35	0.25-0.65	0.25-0.55	.08-0.15	—
9840H	0.37-0.44	0.60-0.95	0.80-1.20	0.65-0.95	0.20-0.30	—
9850H	0.47-0.54	0.60-0.95	0.80-1.20	0.65-0.95	0.20-0.30	—

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

[b] Electric furnace steel.

Table IV

BORON H-STEELS

Ladle Chemical Ranges and Limits

Bars, Billets, Blooms and Slabs

AISI or SAE No.	Composition, %				
	C	Mn	Ni	Cr	Mo
•**50B40H**	0.37-0.44	0.65-1.10	—	0.30-0.70	—
•**50B44H**	0.42-0.49	0.65-1.10	—	0.30-0.70	—
•**50B46H**	0.43-0.50	0.65-1.10	—	0.13-0.43	—
•**50B50H**	0.47-0.54	0.65-1.10	—	0.30-0.70	—
•**50B60H**	0.55-0.65	0.65-1.10	—	0.30-0.70	—
•**51B60H**	0.55-0.65	0.65-1.10	—	0.60-1.00	—
•**81B45H**	0.42-0.49	0.70-1.05	0.15-0.45	0.30-0.60	.08-0.15
•**86B45H**	0.42-0.49	0.70-1.05	0.35-0.75	0.35-0.65	0.15-0.25
•**94B15H**	0.12-0.18	0.70-1.05	0.25-0.65	0.25-0.55	.08-0.15
•**94B17H**	0.14-0.20	0.70-1.05	0.25-0.65	0.25-0.55	.08-0.15
•**94B30H**	0.27-0.33	0.70-1.05	0.25-0.65	0.25-0.55	.08-0.15
94B40H	0.37-0.44	0.70-1.05	0.25-0.65	0.25-0.55	.08-0.15

[a] Listed in "1978 SAE Handbook," but not by AISI in 1977: Steel Products Manual, "Alloy, Carbon and High Strength Low Alloy Steels: Semifinished for Forging; Hot Rolled Bars, Cold Finished Bars; Hot Rolled Deformed and Plain Concrete Reinforcing Bars."

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