

**Steels - Heat Chemical Ranges and Limits  
Chemical Compositions**

Chemical Composition, percent						
AISI or SAE Steel No.	C	Mn	SI	NI	Cr	Mo
1330H	.27-.33	1.45-2.05	.15-.35			
1335H	.32-.38	1.45-2.05	.15-.35			
1340H	.37-.44	1.45-2.05	.15-.35			
1345H	.42-.49	1.45-2.05	.15-.35			
4027H	.24-.30	.60-1.00	.15-.35			.20-.30
4028H*	.24-.30	.60-1.00	.15-.35			.20-.30
4032H	.29-.35	.60-1.00	.15-.35			.20-.30
4037H	.39-.41	.60-1.00	.15-.35			.20-.30
4042H	.39-.46	.60-1.00	.15-.35			.20-.30
4047H	.44-.51	.60-1.00	.15-.35			.20-.30
4118H	.17-.23	.60-1.00	.15-.35		.30-.70	.08-.15
4130H	.27-.33	.30-.70	.15-.35		.75-1.20	.15-.25
4135H	.32-.38	.60-1.00	.15-.35		.75-1.20	.15-.25
4137H	.34-.41	.60-1.00	.15-.35		.75-1.20	.15-.25
4140H	.37-.44	.65-1.10	.15-.35		.75-1.20	.15-.25
4142H	.39-.46	.65-1.10	.15-.35		.75-1.20	.15-.25
4145H	.42-.49	.65-1.10	.15-.35		.75-1.20	.15-.25
4147H	.44-.51	.65-1.10	.15-.35		.75-1.20	.15-.25
4150H	.47-.54	.65-1.10	.15-.35		.75-1.20	.15-.25
4161H	.55-.65	.65-1.10	.15-.35		.65-.95	.25-.35
4320H	.17-.23	.40-.70	.15-.35	1.55-2.00	.35-.65	.20-.30
4340H	.37-.44	.55-.90	.15-.35	1.55-2.00	.65-.95	.20-.30
E4340H**	.37-.44	.60-.95	.15-.35	1.55-2.00	.65-.95	.20-.30
4419H	.17-.23	.35-.75	.15-.35			.45-.60
4620H	.17-.23	.35-.75	.15-.35	1.55-2.00		.20-.30
4621H	.17-.23	.60-1.00	.15-.35	1.55-2.00		.20-.30
4626H	.23-.29	.40-.70	.15-.35	.65-1.05		.15-.25
4718H	.15-.21	.60-.95	.15-.35	.85-1.25	.30-.60	.30-.40
4720H	.17-.23	.45-.75	.15-.35	.85-1.25	.30-.60	.15-.25
4815H	.12-.18	.30-.70	.15-.35	3.20-3.80		.20-.30
4817H	.14-.20	.30-.70	.15-.35	3.20-3.80		.20-.30
4820H	.17-.23	.40-.80	.15-.35	3.20-3.80		.20-.30
50B40H	.37-.44	.65-1.10	.15-.35		.30-.70	
50B44H	.42-.49	.65-1.10	.15-.35		.30-.70	
5046H	.43-.50	.65-1.10	.15-.35		.13-.43	
50B46H	.43-.50	.65-1.10	.15-.35		.13-.43	
50B50H	.47-.54	.65-1.10	.15-.35		.30-.70	
50B60H	.55-.65	.65-1.10	.15-.35		.30-.70	
5120H	.17-.23	.60-1.00	.15-.35		.60-1.00	
5130H	.27-.33	.60-1.10	.15-.35		.75-1.20	
5132H	.29-.35	.50-.90	.15-.35		.65-1.10	
5135H	.32-.38	.50-.90	.15-.35		.70-1.15	
5140H	.37-.44	.60-1.00	.15-.35		.60-1.00	
5145H	.42-.49	.60-1.00	.15-.35		.60-1.00	
5147H	.45-.52	.60-1.05	.15-.35		.80-1.25	
5150H	.47-.54	.60-1.00	.15-.35		.60-1.00	
5155H	.50-.60	.60-1.00	.15-.35		.60-1.00	
5160H	.55-.65	.65-1.10	.15-.35		.60-1.00	
51B60H	.55-.65	.65-1.10	.15-.35		.60-1.00	

6118H	.15-.21	.40-.80	.15-.35		.40-.80	.10-.15 V
6150H	.47-.54	.60-1.00	.15-.35		.75-1.20	.15 Min. V
81B45H	.42-.49	.70-1.05	.15-.35	.15-.45	.30-.60	.08-.15

\* Sulfur = .035- 0.50%

\*\* Sulfur = .025 max.

Chemical Composition, percent						
AISI or SAE Steel No.	C	Mn	SI	Ni	Cr	Mo
8617H	.14-.20	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8620H	.17-.23	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8622H	.19-.25	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8625H	.22-.28	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8627H	.24-.30	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8630H	.27-.33	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
86B30H	.27-.33	.60-.95	.15-.35	.35-.75	.35-.65	.15-.25
8637H	.34-.41	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8640H	.37-.44	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8642H	.39-.46	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8645H	.42-.49	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
86B45H	.42-.49	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8650H	.47-.54	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8655H	.50-.60	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8660H	.55-.65	.70-1.05	.15-.35	.35-.75	.35-.65	.15-.25
8720H	.17-.23	.60-.95	.15-.35	.35-.75	.35-.65	.20-.30
8740H	.37-.44	.70-1.05	.15-.35	.35-.75	.35-.65	.20-.30
8822H	.19-.25	.70-1.05	.15-.35	.35-.75	.35-.65	.30-.40
9260H	.55-.65	.65-1.10	1.70-2.20			
9310H	.07-.13	.40-.70	.15-.35	2.95-3.55	1.00-1.45	.08-.15
94B15H	.12-.18	.70-1.05	.15-.35	.25-.65	.25-.55	.08-.15
94B17H	.14-.20	.70-1.05	.15-.35	.25-.65	.25-.55	.08-.15
94830H	.27-.33	.70-1.05	.15-.35	.25-.65	.25-.55	.08-.15

JTE 1. The Phosphorus .035 max. and the sulfur = .040 max. unless indicated otherwise.

	Maximum per cent	
	P	S
Basic electric	.025	.025
Basic open hearth or basic oxygen or TOC	.035	.040
Acid electric	.050	.050
Acid open hearth	.050	.050

2. Minimum silicon limit for acid open hearth or acid electric furnace alloy steel is 15 per cent.

If quantities of certain elements are present in alloy steels which are not specified or required. These are considered as incidental and may be present to the following maximum amounts: Copper, .35 per cent; Nickel, .25 per cent; Chromium, .20 per cent; and Molybdenum, .06 per cent.

The chemical ranges and limits shown in this Table and in the notes below this Table are subject to the product analysis tolerances shown in the AISI Manual. (Dated March, 1986).

NOTE 5. Standard H-Steels can be produced with a lead range of .15/.35 per cent. Such steels are identified by inserting the letter "L" between the second and third numerals of the AISI number, e.g., 41 L 40 H. Lead is reported only as a range of .15/.35 per cent.

NOTE 6. Where minimum and maximum sulfur content is shown It is indicative of resulfurized steel.