Ferrous Alloys Analysis Chart

FORD MOTOR CO.

Apprentice School Metalurgy Dept.

Type of Steel	Carbon	Manganese	Chromium		Silicon	Phosphorus	Sulphur	Ends Painted
A	.20 - .24	.60 - .75	.65 - .80	VANADIUM .12 - .15	.10 - .15	.03 Max.	.04 Max.	*
AX	.18 - .22	.65 - .75	.80 - .95		.10 - .20	.03 Max.	.04 Max.	White & Black
AA	.26 - .30	.65 - .80	.80 - 1.00		.10 - .20	.03 Max.	.04 Max.	Red & Black
AAA	.30 - .35	.65 - .80	.90 - 1.10		.10 - .20	.03 Max.	.04 Max.	Red & White
AAAH	.35 - .38	.65 - .80	.90 - 1.10		.10 - .20	.03 Max.	.04 Max.	Red, White & Blue
AAAAL	.38 - .42	.65 - .80	.90 - 1.10		.10 - .20	.03 Max.	.04 Max.	Red, Green & Yellow
AAAA	.42 - .47	.70 - .90	.85 - 1.10		.10 - .20	.03 Max.	.04 Max.	Red & Green
AAAAA	.48 - .52	.70 - .90	.85 - 1.10		.10 - .20	.03 Max.	.04 Max.	Blue & White
AA Select	.28 - .32	.65 - .80	.80 - 1.00		.10 - .20	.03 Max.	.04 Max.	T-498 All Elements
AAA Select	.32 - .35	.65 - .80	.90 - 1.10		.10 - .20	.03 Max.	.04 Max.	T-12 Well Within Limits
Armature Steel	.05 Max.	.30 Max			.12 - .28	.03 Max.	.04 Max.	
B	.95 - 1.05	.20 - .30	.40 - .50		.20 - .30	.03 Max.	.04 Max.	
BB	.95 - 1.05	.20 - .30	.90 - 1.10		.20 - .30	.03 Max.	.04 Max.	
BBB	.95 - 1.05	.30 - .40	1.25 - 1.50		.20 - .30	.03 Max.	.04 Max.	Blue & Red
Bessemer #1	.09 - .13	.70 - .90				.09 - .13	.08 - .15	Aluminum
C Key Stock (SAE 1035)	.30 - .40	.50 - .80			.10 - .20	.05 Max.	.05 Max.	
C Pure Iron	.03 Max	.12 Max		COPPER OPTIONAL		.01 Max	.04 Max.	
Chrome Non-Shrink	1.45 - 1.60	.25 - .35	11.0 - 12.0	V .20 - .25 Mo .70 - .90	.20 - .40	.03 Max.	.04 Max.	
CC	.44 - .50	.40 - .55	.70 - .90	TUNGSTEN 1.00 - 1.20	.15 - .25			
D	.45 - .52	.80 - .95	1.00 - 1.20		.10 - .20	.03 Max.	.04 Max.	Green With White Stripe
DD	.48 - .52	.80 - .95	1.00 - 1.20		.10 - .20	.03 Max.	.04 Max.	Green
Die Block Ajax	.60 - .75	.30 - .40	3.25 - 3.75		.10 - .20	.03 Max.	.04 Max.	
Die Block Hammer	.47 - .55	.50 - .60	.60 - .75	NICKEL 1.50 - 1.75	.10 - .20	.03 Max.	.04 Max.	
E	.27 - .35	.70 - .90			.07 - .15	.04 Max	.05 Max.	Red
EE	.35 - .40	.70 - .90			.07 - .15	.03 Max.	.05 Max.	Yellow
EEE	.40 - .45	.70 - .90			.07 - .15	.03 Max.	.05 Max.	Red & Yellow
Electrical	.05 Max.	.30 Max			.90 - 1.20	.03 Max.	.03 Max.	
F	.08 - .15	.80 - .99			.10 - .20	.04 Max	.08 - .15	Aluminum & Black
FF	.15 - .20	.80 - .99			.10 - .20	.04 Max	.10 - .15	Aluminum & Green
FFF	.34 - .40	.80 - .99			.10 - .20	.04 Max	.10 - .15	Aluminum & Yellow
Ford High Speed (Taps and Drills)	.65 - .73	.25 - .35	3.75 - 4.25	V 1.00 - 1.25, W 17.0 - 18.0	.20 - .30	.03 Max.	.04 Max.	
Ford Hot Work	.18 - .23	.40 - .60	1.40 - 1.60	MOLYBDENUM .45 - .55	.15 - .25	.04 Max	.04 Max.	Red & Green With White Stripe
Ford Special High Speed	.78 - .84	.25 - .35	4.00 - 4.50	V 2.00 - 2.25, W 18.0 - 19.0	.20 - .50	.03 Max.	.04 Max.	(Mo. = .50 - .80)
G	.08 - .15	.30 - .45			.07 - .15	.03 Max.	.05 Max.	Black
GG	.15 - .20	.30 - .45			.07 - .15	.04 Max	.05 Max.	Black
H	.27 - .35	.45 - .60			.07 - .15	.04 Max	.05 Max.	Blue
Key Stock (SAE 2330)	.25 - .35	.50 - .80		NICKEL 3.25 - 3.75		.04 Max	.045 Max	
L	.23 - .30	.35 - .50				.04 Max	.05 Max.	Green & Blue
Low Carbon, Open Hearth	.05 - .15	.30 - .50				.04 Max	.05 Max.	Black With Yellow Stripe
Machine	.08 - .20	.35 - .50			.10 - .20	.04 Max	.05 Max.	Black
Magnet	.82 - .90	.30 - .45	2.25 - 2.60 (High Limit Prefered)		.25 - .40	.03 Max.	.04 Max.	Aluminum When C is .85 or over
N	.12 - .16	.35 - .45	.30 Max		.10 - .20	.03 Max.	.03 Max.	Green & Black
R	.70 - .80	.20 - .35	.10 Max	NICKEL - NONE	.15 - .25	.025 Max.	.03 Max.	
RR	.95 - 1.05	.20 - .35	.10 Max	NICKEL - NONE	.15 - .25	.025 Max.	.03 Max.	Brown
RRR	1.20 - 1.30	.20 - .35			.15 - .25	.025 Max.	.03 Max.	
Rustless 18-8	.05 - .10	.30 - .45	16.0 - 18.0	NICKEL 7.0 - 9.0	.15 - .30	.04 Max	.05 Max.	
Rustless 18	.05 - .10	.30 - .45	16.0 - 18.0		.50 Max.	.04 Max	.05 Max.	
Rustless Type II	.20 - .30	.25 - .40	12.0 - 14.0		.70 - 1.00	.04 Max	.05 Max.	
S	.60 - .70	.70 - .85			.15 - .20	.03 Max.	.04 Max.	
SS	.70 - .85	.70 - .85			.10 - .20	.03 Max.	.04 Max.	Blue & Yellow
Tap (Under 1" Diameter)	1.20 - 1.30	.25 - .40	.35 - .45	V .15 - .25, W 1.25 - 1.50	.30 - .45	.025 Max.	.025 Max.	
W	.35 - .45	.25 - .40	1.85 - 2.50		3.60 - 4.20	.03 Max.	.04 Max.	
Welding Wire	.10 Max.	.20 Max.				.02 Max.	.03 Max.	
Insert Die Steel	.55 - .60	.45 - .60	.70 - .80	Mo .75 - .80, Ni 2.25 - 2.45		.03 Max.	.04 Max.	
Vanadium Tool Steel	.95 - 1.05	.20 - .35	.10 Max	V .40 - .50, Ni None	.15 - .25	.025 Max.	.03 Max.	
SAE #4620	.18 - .22	.30 - .60	.25 Max.	Mo .20 - .30, Ni 1.65 - 2.00	.15 - .30	.04 Max	.05 Max.	Aluminum & Red
Deep Drawing Steel	.05 - .06	.28 - .38	.04 Max.	Copper .10 Max.		.03 Max.	.04 Max.	
"FFH"	.20 - .25	.80 - .99			.10 - .20	.04 Max	.10 - .15	

*** White if on low side of analysis and white with green stripe if on high side.**

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