

# COMPARISON OF CARBON AND ALLOY STEEL PLATES

TRADE NAME	MAGNUM T-1	MAGNA-TUFF 360	MAGNA-TUFF 420	MAGNA TRIPLE ALLOY
ACTUAL	A518 GR. B.	A.R. 360	A.R. 420	AIR HARDENED
<b>WEARABILITY:</b>	FAIR	GOOD	VERY GOOD	EXCELLENT
<b>FORMABILITY:</b>	EXCELLENT	SATISFACTORY	MODERATE	GOOD
<b>WELDABILITY:</b>	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
<b>TYPICAL CHEMICAL ANALYSIS</b>	%	%	%	%
<b>CARBON</b>	.12/.21	.20 / .25	.20/.25	.19/.25
<b>MANGANESE</b>	.70/1.00	1.60 MAX	1.00/1.60	.80/1.20
<b>PHOSPHORUS</b>	.035 MAX	.015 MAX	.020 MAX	.015 MAX
<b>SULPHUR</b>	.40 MAX	.004 MAX	.004 MAX	.007 MAX
<b>NICKEL</b>	----	.20 MAX	.20 MAX	2.25/3.25
<b>CHROMIUM</b>	.40/.65	.50 MAX	.50 MAX	1.80/2.25
<b>MOLYBDENUM</b>	.15/.25	.20 MAX	.20 MAX	.20/.50
<b>SILICON</b>	.20/.35	.30	.30	.20/.35
<b>BORON</b>	.0005/.005	.007 MAX	.005 MAX	.005 MAX
<b>COPPER</b>	----	.35 MAX	----	----
<b>VANADIUM</b>	.03/.08	----	.10 MAX	----
<b>TITANIUM</b>	.03/.08	.005/.012	.005/.012	----
<b>HEAT TREATMENT</b>	<b>QUENCHED &amp; TEMPERED</b>	<b>QUENCHED &amp; TEMPERED</b>	<b>QUENCHED &amp; TEMPERED</b>	<b>AIR QUENCHED &amp; NORMALIZED</b>
<b>HARDNESS RANGE</b>	360 MIN	360/400 BHN	400/440 BHN	420/480 BHN
<b>TENSILE STRENGTH (PSI)</b>	115,000/135,000	160,000/180,000	194,000 MIN	219,000/238,000
<b>YIELD POINT (PSI)</b>	100,000 MIN	130,000/150,000	170,000 MIN	170,000/190,000

*MAGNUM Triple Alloy: Adequate rolls or press brake must be used to overcome tremendous tensile strength of Magnum Triple Alloy*