








HYTORC®

FASTENER IDENTIFICATION

Page 1

SPECIFICATION ASTM A193/A193M






Marking/Grade	Product	Material/Specification
 Grade B5	Bolts, screws, studs	Ferritic Steel, 5% Chromium, AISI Type 501.
 Grade B6	Bolts, screws, studs	Ferritic Steel, 12% Chromium, AISI Type 410.
 Grade B7	Bolts, screws, studs	Ferritic Steel, Chromium-Molybdenum, AISI Type 4140, 4142, 4145, 4140H, 4142H and 4145H.
 Grade B16	Bolts, screws, studs	Ferritic Steel, Chromium-Molybdenum - Vanadium.
 Grade B8 Class 1	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304, Carbide Solution Treated.
 Grade B8C Class 1	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium-8% Nickel, AISI Type 347, Carbide Solution Treated.
 Grade B8P Class 1	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 305 With Restricted Carbon, Carbide Solution Treated.

HYTORC®

FASTENER IDENTIFICATION

Page 2









SPECIFICATION ASTM A193/A193M

<u>Marking/Grade</u>	<u>Product</u>	<u>Material/Specification</u>
 Grade <u>B8T</u> Class 1	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium- 8% Nickel, AISI Type 321, Carbide Solution Treated.
 Grade <u>B8</u> Class 2	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304, Carbide Solution Treated and Strain Hardened.
 Grade <u>B8C</u> Class 2	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium - 8% Nickel, AISI Type 347 Carbide Solution Treated and Strain Hardened.
 Grade <u>B8P</u> Class 2	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 305 with Restricted Carbon, Carbide Solution Treated and Strain Hardened.
 Grade <u>B8T</u> Class 2	Bolts, screws, studs	Austenitic Steel Stabilized, 18% Chromium - 8% Nickel, AISI Type 321 Carbide Solution Treated and Strain Hardened.

HYTORC®

SPECIFICATION ASTM A320/A320M








Page 3

Marking/Grade	Product	Material/Specification
 L7 Grade L7	Bolts, screws, studs	Ferritic Steel, Chromium - Molybdenum, AISI Type 4140, 4142 or 4145, Quenched and Tempered.
 L7A Grade L7A	Bolts, screws, studs	Ferritic Steel, Carbon - Molybdenum, AISI Type 4037, Quenched and Tempered.
 L7B Grade L7B	Bolts, screws, studs	Ferritic Steel, Chromium - Molybdenum, AISI Type 4137, Quenched and Tempered.
 L7C Type 3740, Grade L7C	Bolts, screws, studs	Ferritic Steel, Nickel - Chromium - Molybdenum, AISI Quenched and Tempered.
 L43 Type 4340, Grade L43	Bolts, screws, studs	Ferritic Steel, Nickel - Chromium - Molybdenum, AISI Quenched and Tempered.
 B8 Grade B8 Class 1	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304 Carbide Solution Treated.
 B8C Grade B8C Class 1	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium-8% Nickel, AISI Type 347, Carbide Solution Treated.
 B8T Grade B8T Class 1	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium-8% Nickel, AISI Type 321, Carbide Solution Treated.

HYTORC®

SPECIFICATION ASTM A320/A320M




Page 4

Marking/Grade	Product	Material/Specification
 Grade B8P Class 1	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304 with Restricted Carbon, Carbide Solution Treated.
 Grade B8F Class 1	Bolts, screws, studs	Austenitic Steel with Added Sulfur, AISI Type 303, Carbide Solution Treated.
 Grade B8 Class 2	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304, Carbide Solution Treated and Strain Hardened.
 Grade B8C Class 2	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium - 8% Nickel, AISI Type 347 Carbide Solution Treated and Strain Hardened.
 Grade B8T Class 2	Bolts, screws, studs	Austenitic Steel, Stabilized, 18% Chromium - 8% Nickel, AISI Type 321, Carbide Solution Treated and Strain Hardened.
 Grade B8P Class 2	Bolts, screws, studs	Austenitic Steel, Unstabilized, 18% Chromium - 8% Nickel, AISI Type 304 with Restricted Carbon, Carbide Solution Treated and Strain Hardened.
 Grade B8F Class 2	Bolts, screws, studs	Austenitic Steel with Added Sulfur, AISI Type 303, Carbon Solution Treated and Strain Hardened




HYTORC®

SPECIFICATION ASTM A325

Page 5

Marking/Grade	Product	Material/Specification
 Type 1	Bolts	Medium Carbon Steel, Quenched and Tempered.
 Type 2	Bolts	Low Carbon Martensite Steel, Quenched and Tempered.
 Type 3	Bolts	Atmospheric Corrosion Resisting Steel, Quenched and Tempered.

SPECIFICATION ASTM A354


Marking/Grade	Product	Material/Specification
 Grade BC	Bolts, studs	Alloy Steel, Quenched and Tempered.
 Grade BD	Bolts, studs	Alloy Steel, Quenched in Oil and Tempered.
 Type 1	Bolts, studs	Medium - Carbon Steel, Quenched and Tempered.

HYTORC®




FASTENER IDENTIFICATION

Page 6

SPECIFICATION ASTM A449

Marking/Grade	Product	Material/Specification
 Type 2	Bolts, studs	Low - Carbon Martensite or Medium - Carbon Martensite Fully Killed, Fine Grain Steel, Quenched and Tempered.






SPECIFICATION ASTM A490

Marking/Grade	Product	Material/Specification
 Type 1	Bolts	Alloy Steel, Quenched in Oil and Tempered.
 Type 2	Bolts	Low Carbon Martensite Steel, Quenched and Tempered.
 Type 3	Bolts	Atmospheric Corrosion Resistant Steel, Quenched and Tempered.

HYTORC®

SPECIFICATION ASTM A540/A540M

Page 7

Marking/Grade	Product	Material/Specification
 B21 Grade B21 Class 1 thru 5	Bolts, studs	Alloy Steel, Chromium - Molybdenum - Vanadium, Quenched and Tempered.
 B22 Grade B22 Class 1 thru 5	Bolts, studs	Alloy Steel, Chromium - Molybdenum - AISI Type 4142-H, Quenched and Tempered.
 B23 Type E-4340-H, Grade B23 Class 1 thru 5	Bolts, studs	Alloy Steel, Chromium - Nickel - Molybdenum, AISI Quenched and Tempered.
 B24 Grade B24 Class 1 thru 5	Bolts, studs	Alloy Steel, Chromium - Nickel - Molybdenum, AISI Type 4240 Mod, Quenched and Tempered.
 B24V Grade B24V Class 1 thru 3	Bolts, studs	Alloy Steel, Chromium - Nickel - Molybdenum - Vanadium, AISI Type 4340V Mod, Quenched and Tempered.