	Technical/ Material Specification	No. CD001-TK009-MS-03 Date: 15.06.2010 Rev. No. 0 Page 1 of 1

Product : Alloy Steel Hexagonal / Anchor Bolts / Studs

Material : SA 193-B7

Condition : Quenched and Tempered.

Technical Requirement : The material furnished under SA 193-B7 shall meet the requirements of ASME B & PV Code Section II Part A specification SA 29 / SA 29M (Edition 2001).

Chemical Composition : As per Table below;

Chemical Composition (%)						
C	Mn	P	S	Si	Cr	Mo
0.37-.049	0.65-1.10	≤ 0.035	≤ 0.040	0.15-0.35	0.75-1.20	0.15-0.25

Mechanical Properties* : As per Table below;

Tensile Strength MPa (min)	Yield Strength MPa (min)	Elongation in 4D % (min)	Reduction in Area % (min.)	Hardness (max.)
860	720	16	50	321 HB or 35 HRC

* For sizes M64 in diameter and smaller only.

Certified Mill Test Reports:

i) Mechanical test report for each lot of Bolts / Studs.

ii) Chemical analyses report of each lot of Bolts / Studs from a specific heat.

Tests:

i) Bolts / Studs shall be visually examined.

Quality:

Bolts / Studs shall have a workmanlike finish.

Marking:

Marking of Bolts / Studs shall conform to the article 19 of SA-193 / SA-193M (2001).

Manufacturer's certificate, certifying that Bolts / studs have been made to the requirements as mentioned above and given in relevant sections of ASME and ASTM standard, shall be submitted. All certificates shall be in English.

	Reviewed By	