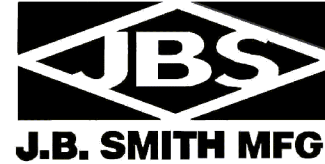


Certificate of Test



ITEM INFORMATION

Part Number: 0362001604 **Description:** 11/2 3000 FS SKT/W 90 ELL
Heat Code: CA1416A **Heat Number:** 21603980
Reference No.:
Part Specification:

Starting Material: P004332000 **Description:** #10 TEE P/D 63MM/2.480 (2M) 2 1/2
Fitting Trademark: JBS-J.B. SMITH MFG
Specification: ASTM A105/A105M-14 / ASME SA105

CHEMICAL ANALYSIS %

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb/Nb	Al	N	CE-LF
0.190	0.940	0.009	0.015	0.230	0.030	0.030	0.040	0.010	0.001	0.003	0.01	0.006	0.361

PHYSICAL PROPERTIES

Yield PSI	Yield MPA	Tensile PSI	Tensile MPA	Elongation	REDUCTION OF AREA %	BRINNELL HARDNESS 1	BRINNELL HARDNESS 2
39000	269	71700	494	35.10	65.80	141	146

Heat Treatment: NORMALIZED.

IMPACT TESTING

TYPE	TEMP	SMPL# 1	# 2	# 3	AVG	%SHEAR	LAT EXP
CHARPY							

SUPPLEMENTAL INFORMATION

We certify that this is a true and correct copy of the mill certificate, issued by the manufacturer of the steel employed or the laboratory which has determined it, as retained in the records of the company. J.B. Smith Mfg makes no representation beyond those of the manufacturer or its agent. Threads conform to ASME B16.11 Elongation Test Results are obtained using standard round specimen 2" 50mm gage length EN 10204 type 3.1 NACE MR0175-09/ISO 15156-9