



**TESTS & INSPECTIONS PERFORMED DURING THE PRODUCTION OF HEAT
TREATED GRADES OF API 5CT CASING**

GREEN PIPE SUPPLIED FOR CONVERSION TO HEAT TREATED GRADE	Test/Inspection	Method/Equipment Used	Description
	Set-up Macro of Weld Profile	Visual examination	N/A
	Transverse Weld Area Evaluation	Visual examination	N/A
	Weld Temperature Monitor	Thermasure system provided by Thermatool	Infra-red Pyrometer
	On-line NDE of weld zone	Industrial Inspection Systems	4 Channel UT unit
	Seam Annealing Temperature Monitor	Thermasure system provided by Thermatool	Infra-red Pyrometer
	Seam annealing penetration and microstructure	Visual and microscopic examination	N/A
	Weld Seam Temperature entering the quench tank	Thermasure system provided by Thermatool	Infra-red Pyrometer
	Dimensional Evaluation	Micrometers/Snap Gauges	N/A
	Flattening Tests	Visual examination	N/A
	Full Length Drift Test	WTC Design	Rack & pinion system
	Visual Inspection at various stages throughout the process	Visual examination	N/A

HEAT TREATED, THREADED AND COUPLED API CASING	Test/Inspection	Method/Equipment Used	Description
	As-quenched Hardness Test	Brinell Hardness Tester	Test ID and OD of pipe to ensure adequate transformation
	Straightness	Visual examination	N/A
	Pipe Temperature During Straightening	Infra-red Pyrometer	If required for grade produced
	Hydrostatic Test	Brandt	20,000 psi capacity
	Full-body NDE (pipe body and weld)	GE ROT 250	Rotary UT method (inspection head rotates)
	SEA (Special End Area) Inspection	USIP 40	Rotary UT method (pipe rotates)
	Full Length Drift Test	WTC Design	Rack & pinion system
	Flattening Tests	Visual examination	N/A
	Dimensional Evaluation	Micrometers/Snap Gauges/Pi Tapes/UT Thickness Gauges	N/A
	Thread Elements Inspection	Thread Inspection Instrumentation	N/A
	Triangle Stamp Inspection (when req'd)	Visual examination	N/A
	End Drift of Box End of T&C joint (standard or alternate drift diameter)	End Drift Plugs as described in API 5CT or as per Customer requirement	N/A
	Coupling Inspection and Make-up Dimensions	Visual and measurements made with various devices	N/A
	Weigh, Measure & Stencil	Brandt	N/A
	Visual Inspection at various stages throughout the process	Visual examination	N/A
	Collapse Testing of High Collapse (HC) Products	SWRI Design	N/A
	Laboratory Testing (Product Chemical Composition, Tensile, Hardness and Charpy Impact Toughness, where required)	Chemical composition – LECO GDS, Tensile - United Testing UTM, Hardness – Rockwell Hardness Tester, Charpy – Tinius Olsen Testing Unit	N/A