



DS 32-178-
9 April 2010

Quality Programme - Seamless Super Duplex Tubing for Umbilicals

Project title:		
Purchase order title:		
Order/package no.:		
Vendor:		
A	REQUIREMENTS WITH TENDER	KEY
1	Assessment of technical capability.	
2	Appraisal of quality system.	
3	Review of typical SQP.	
4	Review of typical ITP.	
B	REQUIREMENTS PRIOR TO MANUFACTURE/CONSTRUCTION	
1	Design verification.	
2	Design validation.	
3	Formal design review.	
4	Approval of design documentation/drawings/specifications.	
5	Approval of SQP.	
6	Approval of ITP.	
7	Approval of PED implementation plan.	
8	Approval of major subvendor and subcontractor ITPs.	
9	Approval of weld procedures (including repair procedures, if applicable).	
10	Monitor new weld procedure qualification test, review NDT results, and witness all associated mechanical tests.	
11	Approval of NDT procedures.	
12	Approval of handling, preservation, and packaging procedures.	
13	Preproduction meeting.	
C	REQUIREMENTS DURING MANUFACTURE/CONSTRUCTION	
1	Examination and approval of manufacturing areas.	
2	Analysis of material composition from furnace production by daily production sheet.	
3	Review casting temperatures and chemical analysis from pour samples - mill certificate.	
4	Review billet manufacture from forging/rolling mill heat temp/dimensions/surface finish.	
5	Monitor traceability during billet cutting and machining.	
6	Witness of macro etch test for first 3 blooms and ingots and billets with temp $\Delta < 25^{\circ}\text{C}$ (45°F).	
7	Inspect production billets for correct heat number, dimensions, and surface finish.	
8	Witness of segregation check by billet macro etch test.	
9	Inspection of mother tube for potential surface defects and examine surface condition.	
10	Inspect dimensions and surface finish during cold rolling/pilge ring.	
11	Witness heat treatment, monitor auto control of furnace and feed speed, review records.	
12	Monitor cutting process for identification samples and originating tube.	
13	Witness PMI testing.	
14	Witness eddy current testing and sigma phase detection.	
15	Witness UT, conditioning, OD and WT measurement, and temporary I/D marking.	
16	Monitor preparation of test specimens, equipment calibration, and witness physical, microstructure, and corrosion testing.	
17	Monitor cutting of tubes into specified lengths.	
18	Witness start of tube end preparation and monitor ongoing production.	
19	Inspect surface condition, dimensions, and identification.	
20	Monitor internal cleanliness, foam plug shooting, and capping of tube ends.	
21	Monitor longitudinal paint stencilling and bar code stencilling.	
22	Verify that all inspections and tests are complete and check tubes for any handling damage.	
23	Monitor packing for shipment.	
24	Review and approve mill certificates.	
25	Issue inspection release note.	



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D	REQUIREMENTS AT CONTRACT COMPLETION			
1	Review and approve data dossier.			
Key: AP = Approve, H = Hold, R = Review, W = Witness, S = Surveillance, N/A = Not Applicable.				
Notes 1. The Vendor/Manufacturer is required to include the points referenced in the above quality programme in all related system quality plans and inspection & test plans as identified in the POQR, part 1, section 4. 2. These activities are in addition to the QA/QC activities performed in house by the Vendor. These activities shall be performed by BP or a BP NIB as appropriate, and if specified as a requirement, shall be included in the Vendor SQP and/or ITP.				
NO.	DATE	REVISION	BY	APP