	04	03	02	01	Sr.NO.	
line pipe	Cl. No. 1.0 of 3LPE External coating	PTS-3 LPE EXTERNAL COATING OF LINEPIPE	PTS-3 LPE EXTERNAL COATING OF LINEPIPE	PTS-3 LPE EXTERNAL COATING OF LINEPIPE	3LPE Spec.No.	
ES WAN		7.5.2 (e)	7.5.1 (g)	7.5.1 (f)	3LPE Spec. Clause No.	
E STATE OF THE STA	ENERGY	Tests on pipe coated partly with epoxy and partly with epoxy epoxy & adhesive layers	Tests on pipe coated partly with epoxy and partly with epoxy epoxy & adhesive layers	Tests on pipe coated partly with epoxy and partly with epoxy & adhesive layers	Section	
	Internal epoxy coating conforming to ISO 15741:2001 "Friction reduction coatings for the interior of on and off	One sample at 80°C for 28 days CD shall be sent to NABL approved external laboratory.	2° flexibility test shall be carried out as per annexure A.12 of ISO 21809-2	Adhesion Test (24 hrs) shall be carried out on the epoxy coated pipe as per clause A.15 of ISO 21809-2	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
15741:2001 is not applicable	Internal Coating has not been considered in this tender. Hence ISO	In-house test are allowed provided equipment are calibrited by NABL accredated Lab	Testing as per Clause A-13 of ISO-21809-2,2014 is acceptable	Testing as per Clause A-16 of ISO-21809-2,2014 is acceptable	Clarification	

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Tender No.:REPL/CUGL/STP/002/18	Pre-Bid Queries	

08 L	07	06	0.5	Sr.NO.	
Cl. No. 4.4 of 3LPE External coating line pipe	Cl. No. 4.2 of 3LPE External coating line pipe	Cl. No. 4.1 of 3LPE External coating line pipe	Cl. No. 3.0 of 3LPE External coating line pipe	3LPE Spec.No.	
				3LPE Spec. Clause No.	
SONATOR SONATO				Section	
All materials to be used shall be supplied in sealed, damage free containers and shall be suitably marked with the following minimum information: a. Name of the Manufacturer b. Manufacturing standard c. Health, safety and environmental Instructions d. Receiving inspection acceptance criteria e. Data Sheets f. Storage instruction. g. Type of Material f. Batch Number i. Place and Date of Manufacture j. Shelf Life/Expiry Date (if applicable) k. Quantity	tests òr each ind.	The three layer coating system shall comprise of a powder epoxy primer, polymeric adhesive and a medium density polyethylene topcoat.	ISO 21809-2:2007 : Petroleum and Natural Gas Industries- External Coatings for buried and	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
Certificate with inspection reports will be accepted and raw material bags shall be opened in presence of TPIA	The test performed by the Raw material manufacturer shall be reviewed by appointed TPIA for batch wise correlation of the test values	The Outer layer of 3 LPE coating shall be HDPE.	Refer Cl 6.1 of GCC, latest revision of Code /Standard is to be applicable, hence ISO-21809-2 -2014 shall be applicable	Clarification	

Pre-Bid Oueries

					Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18	
	Sr.NO.	3LPE Spec.No.	3LPE Spec. Clause No.	Section	Section Description	Clarification
	09	Cl. No. 7.5.2 (l) of 3LPE External coating line pipe			Coating Resistance test The contractor at the start of production shall prepare a sample and perform the test as per DIN30670:2012 and submit the report to the customer.	Testing as per DIN-30670 stands
	10	Cl. No. 8.6.1 of 3LPE External coating line pipe			All pipes shall be provided chemical pre-treatment with phosphoric acid solution. 10% solution of phosphoric acid, Oakite 31 / 33 or equivalent, shall be used to remove all soluble salts and other soluble contaminants.	Bidder intent to clarify that the phosphoric acid solution tolerance 10 % (+/-
1	=	Cl. No. 8.6.5 of 3LPE External coating line pipe			After the de-ionised water wash, the pipe shall be dried with dry air and preheated to a temperature of 65°C to 85°C.	the pipe shall be dried with dry air and dry air temperature shall be 65°C to 85°C
	12	Ct. No. 8.14.1 of 3LPE External coating line pipe			Following completion of abrasive blast cleaning, all pipe surface shall be chemically pretreated with a 10% strength chromate solution.	the chromate solution tolerance 10 % (+/- 2) %
	13	Cl. No. 8.14.4 of 3LPE External coating line pipe			The Contractor shall check that the concentration of the chemical pre-treatment solution remains within the range recommended by the chemical manufacturer for the pipe coating process. The concentration shall be checked at the make-up of each fresh solution and once per hour, using a method approved by the chemical manufacturer. The	Test frequency can be one at the start of the shift and
	14 3	Cl. No. 9.2.1 of 3LPE External coating line pipe		TANK S	Electrostatic application of epoxy powder of minimum dry film thickness 0.200 mm, unless otherwise specified. For LSAW line pipe required for HDD crossings, the minimum DFT of epoxy powder shall be 400 micron.	HDD Crossing is not envisaged in the present tender

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2 33 0	17	16	15	Sr.NO.	
Cl. No. 10.2.13 of 3LPE External coating line pipe	Cl. No. 10.2.10 of 3LPE External coating line pipe	Cl. No. 10.2.4 of 3LPE External coating line pipe	Cl. No. 9.2.8 of 3LPE External coating line pipe	3LPE Spec.No.	
SOM S				3LPE Spec. Clause No.	
				Section	
One cyclic test shall be conducted after completion of coating followed by strip test of coating to locate any failure on disbondment, for cyclic test, the pipe to be pressurized to 1.5 times of design pressure and again repressurized to 1.5 times of design pressure, continuously for about 100 pipes more than the quanity cycles, then check for coating disbondment by stripping the pipe coating. The cyclic test is ment for procedure qualification for acceradition of mill. The bidder mill having produced and sold line under present tender are exempted from this test.	Cathodic Disbondment Test a. 24 hours CD test shall be conducted as per sl. no. (f) of table in clause no. 5.3.3 of this specification. b. The frequency of this test shall be 2 Samples from total lot 1 for 28 days & 1 for 48 hrs.	Bond Strength (Peel Test) The frequency of test for cut back portions shall be every 2 hrs and for middle of pipe shall be 4 hrs.	The extrusion temperatures of the adhesive and polyethylene shall be continuously recorded. The monitoring instruments shall be independent of the temperature control equipment. The instruments shall be calibrated prior to start of each shift.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
The cyclic test is ment for procedure qualification for acceradition of mill. The bidder mill having produced and sold line pipes more than the quanity under present tender are exempted from this test.	The cathodic disbondment test shall be conducted every 24 hours as per clause 5.2.3 of this specification at the provision of Table 9 of ISO 21809-1 shall apply	Peel off test distance from any end shall be = 0.5L+(-)0.1L, L being the length of the line pipe	In the event caliberation facilities are not available the Instruments can be got caliberated from NABL accreated laboratory other provision of the clause remain unalterd	Clarification	

	23	22	21	20	19	Sr.NO.	
		Cl. No. J.5 of QCT	Cl. No. A.8.5.10 & D.3 of QCT	Cl. No. 14.7 of 3LPE External coating line pipe	Cl. No. 13.0 of 3LPE External coating line pipe	3LPE Spec.No.	
	R ONA					3LPE Spec. Clause No.	
		ENERGA				Section	
	Test frequency & acceptance criteria	ACTIVITY: Hygrometer TEST FREQUENCY: Once in four month	ACTIVITY: Bare pipe temp. after Epoxy application by IR Thermometer TEST FREQUENCY: Every pipe by online pyrometer Recording ACCEPTANCE CRITERIA: 190-230°C or as per powder Manufacturer recommendation INSTRUMENTS: IR Optical pyrometer	The coating pipe mill shall have internal tracking system for pipe traceability during regular coating to reduce manual interference. SAP base system is preferred.	MARKING Colour band	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
referred Standard/Code	QCT shall take priority over PTS and both in combination will have overriding effect on any	The caliberation for Hygrometer should be valid for entire coating work for client under this	Provisions of CI A.8.5.10 and D.3 of QCT remain	Internal tracking system for pipe traceability ERP/SAP of the manufacturer is acceptable	White color on external coated surface and yellow	Clarification	

	S	
24	Sr.NO.	
PTS – Line Pipe (HFW pipes) GTS – Line pipes & As per QCT	3LPE Spec.No.	
	3LPE Spec. Clause No.	
	Section	
The present Specification shall be read in conjunction with General Technical Specification (the GTS) and API SL 45th edition which it amends and/or complements. The present Specification has to be read in conjunction with the API 5L forty-fifth edition, its addendum (December 2012) and the Particular Technical Specification (PTS) attached to the material requisition. The present Specification has to be read in conjunction with the API 5L forty-fifth edition, its addendum (December 2012) and the Particular Technical Specification (PTS) attached to the material requisition.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
Latest edition will be applicable (Refer to clause no 6.1 of GCC)	Clarification	



Pre-Bid Oueries

			25			Sr.	1
	Cl. No. 9.2 of QCT			Cl. No. 9.11.1.1 of GTS	Cl. B of PTS – Line Pipe (HFW pipes)	Sr.NO. 3LPE Spec.No.	
						3LPE Spec. Clause No.	
EENERGE						Section	
	Length 11.5 – 12.5 meters for sample pipes 11.0 meter	Pipe length shall be between 10.0 and 14.0 m. Thickness wise average length of pipes supplied shall not be less than 12.5 m. The average length shall be cumulative as measured at Pipe Mill despatch note.	Nominal length shall be at least twelve metres (12 m) but not more than transportable by Road Trucks or railwroad according to prevailing legislation. (See PTS).	Nominal length shall be at least twelve metres (12 m) but not more than transportable by Road Trucks or railwroad According to prevailing legislation. (See PTS). Pipe length shall be between 10.0 and 14.0 m. Thickness wise average length of pipes supplied shall not be less than 12.5 m. The average length shall be cumulative as measured at Pipe Mill despatch note.	Acceptable length shall be 12 ± 0.5 meter. For sampling pipe, the minimum length of 11.0 meter is acceptable.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
			length of the line pipe shall not be less than 11.5 meter with minimum length of any stray pipe not less than 10 meter	Considering the transport restrictions the average		Clarification	

Т						
70	Sr.NO.	3LPE Spec.No.	3LPE Spec. Clause No.	Section	Section Description	Clarification
	26	Cl. 8.1 of PTS – Line Pipe (HFW pipes)			Only the high Frequency Electric Resistance Welding (HFERW) process will be accepted for pipe manufacture and the WPS/PQR for the same shall be submitted after award of the agreement.	It is the matter of
1		Cl. 4.2 of QCT			Seam normalizing (As per WPS & PQR)	Specifications are provided
	27	Cl. E.4 of annexure E of GTS			Radiography inspection of weld seam	Radiography is not waived off
		Cl. 9.8 of PTS – Line Pipe (HFW pipes)			CVN Impact test shall be carried out at 0°C. For base material, HAZ & Weld, one set of three specimens for each, shall be taken from coupon.	
	28	Cl. 9.8.3 of GTS			For pipe weld and HAZ, 3 sets of 3 transverse specimens shall be taken transverse to the weld.	Provision of API 5L 46th
		11.2.6 of QCT	NAN	ENERGY	For all base materials and welds: The CVN Impact test shall be conducted at both (-) 200 C & 00 C. Impact test value (For all base material and weld) shall conform to requirement of Table 8 of Cl. No. 9.8 (CVN Impact test for PSL 2 pipe) API 5L 45th Edition.	edition shall prevail
	-		- Action Commence	The state of the s		

	Cl. E.1 30 Cl. E1	CI. No. 8 29 — Line P. pip	Sr.NO. 3LPE	
ADDRESS OF THE PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PAR	Cl. E.1 of PTS Cl. E1 of GTS	Cl. No. 8.7 of PTS – Line Pipe (HFW pipes)	3LPE Spec.No.	
			3LPE Spec. Clause No.	
ENER			Section	
MECHANICAL PROPERTIES TEST Following test shall be carried out as per QCT / approved QAP.	Staff in charge with the NDT shall be duly qualified according to International STD like, but not limited to ASNT-TC-1A. Qualification of personnel: final Non Destructive inspection shall be performed by Level II or Level III personnel. All level II personnel shall be qualified and certified for the specific NDT method by a certification body or level III in accordance WITH BSI BS EN 473 or the ASNT CP 189 or purchaser approved equivalent.	A color band to differentiate thickness of Pipes shall be provided at each extremity (50 cm from the end) of the pipe after coating of pipe by the coating applicator Barcode identification system shall be provided by the pipe supplies, which shall have a life of 5 years over and above the conventional marking as per API 5L.	Section Description	Tender No.:REPL/CUGL/STP/002/18
Code Provision shall	ASNT(ASNT-TC-1A) level II is required to perform all the NDT activities for the specific NDT method and One Level III(ASNT-TC-1A) shall be made available during the production at manufacturer's site, to supervise all the NDT activities.	Color Band for thickness differentiation is not required due to single thickness under this contract	Clarification	

				Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18	
Sr.NO.	3LPE Spec.No.	3LPE Spec. Clause No.	Section	Section Description	Clarification
32	Annexure E of GTS			Guidance for probe angle – Automatic UT inspection & manual ultrasonic testing:	The provision contained in API 5L 46th Edition and ISO 10893 shall apply
33	Cl. 10.3 of QCT Cl. 8.9 of PTS			Both pipe ends shall be provided with metallic caps Pipe Bevel ends shall be protected using Bevel protectors, to be supplied by Pipe Manufacturer. In addition, Plastic end caps are required for pipes, as per GTS requirement.	Plastic end cap or bevel Protectors for both ends of each pipe will sufice

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34	Sr.NO.	
Cl. No. 9.3.2 of GTS Cl. No. 9.3.2 of QCT	3LPE Spec.No.	
	3LPE Spec. Clause No.	
TIND STATE OF THE PARTY OF THE	Section	
The ratio (Rt0,5/Rm) between the measured values of yield strength (Y) at 0.5% elongation of the gauge length as determined by an extensometer and ultimate tensile strength (T) for the body of each test pipe (product pipe) on which, yield strength and ultimate tensile strength are determined shall not exceed 0.85 for Grades X60 and lower. For Grades X65 to X80 included, the same ratio may reach the value of 0.90. The ratio (Rt0,5/Rm) between the measured values of yield strength (Y) at 0.5% elongation of the gauge length as determined by an extensometer and ultimate tensile strength (T) for the body of each test pipe (product pipe) on which, yield strength and ultimate tensile strength are determined shall not exceed 0.85 for Grades X60 and lower. For Grades X65 to X80 included, the same ratio may reach the value of 0.90.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
As per clause 6.1 of GCC latest code/ standard are to be followed. Therefore Ys/Ts ration confirming to API 5L 46th Edition is acceptable	Clarification	

36		35	Sr.NO.	
Cl. No. 6.1 of QCT	Cl. No. 10.2.6.1 of GTS	Cl. No. 10.2.6 of GTS Cl. No. 10.2.6 of PTS – Line Pipe (HFW pipes) Cl. No. 10.2.6	3LPE Spec.No.	
CAL			3LPE Spec. Clause No.	
TANGE ENERGY			Section	
THE RESERVE OF THE PARTY OF THE	The hydrostatic test pressure shall be such as to create a hoop stress between 95% and maximun 100% of the specified minimum yield strength. Hydraulic pumps shall not activate during the 15 second test duration Hydrostatic	The hydrotest testing master gauge shall be calibrated by means of a dead weight tester, or equivalent before the start of the production order at the end of production order and at least once per month during production. The test pressure measuring device shall be calibrated by means of a dead weight tester, or equivalent at the beginning of each shift. The hydrotest testing master gauge shall be calibrated by means of a dead weight tester, or equivalent before the start of the production order at the end of production order and at least once per month during production.	Section Description	
Test pressure of 95% SMYS shall be applicable		Caliberation of Pressure Gauge shall be less than a month old for each batch of production	Clarification	

	70	
37	Sr.NO.	
Cl. No. 11.2.1 of GTS	3LPE Spec.No.	
	3LPE Spec. Clause No.	
	Section	
Pipe individual number shall contain: the first two numbers to indicate the year of the purchase order and maximum five numbers specified in the purchase order and if those are not specified, they must be requested from numbering should be the Purchaser. Numbering of the pip manufacturer procedu acceptable, However numbering should be contiguous	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
Numbering of the pipe as manufacturer procedure is acceptable, However numbering should be contiguous	Clarification	



Cl. 11.1.2 of GTS Cl. 11.1.2 of GTS Cl. 13.0 of QCT Cl. 13.1 of QCT Cl. No. 1.0 of 3LPE External coating line pipe		or de Caranta	3LPE Spec.	2	Tender No.:REPL/CUGL/STP/002/18
Cl. 11.1.2 of GTS Cl. 8.7 PTS Cl. 13.0 of QCT Cl. 13.1 of QCT Cl. No. 1.0 of 3LPE External coating line pipe	Sr.NO.	3LPE Spec.No.	3LPE Spec. Clause No.	Section	Section Description
Cl. 8.7 PTS Cl. 13.0 of QCT Cl. 13.1 of QCT Cl. No. 1.0 of 3LPE External coating line pipe		Cl. 11.1.2 of GTS			ninimum information to name or mark of the Ma specified outside diamet
Cl. 13.0 of QCT Cl. No. 1.0 of 3LPE External coating line pipe		C1 & 7 DTC			 The specified wall thickness, Die-stamping or vibro etching: Die stamping shall not be permitted on the pipe body Die stamping by low stress punch on end and stencil
Cl. 13.0 of QCT Cl. No. 1.0 of 3LPE External coating line pipe		Cl. 8.7 PTS			Die stamping by low stress punch on end and stencil marking on the outside surface of the pipe on both sides shall be used for marking on pipes.
TINA STATE OF THE PARTY OF THE	38	Cl. 13.0 of QCT			Marking shall be Paint stenciled at right angle to the pipe axis at 150mm from one end with letter size 30mm min. on Outside & inside(8" & above).
ON ANCE ENERGY					One end of each pipe from inside and outside after coating.
ONANGE ENERGY		CH3 LofOCT			Pipe no. shall be stamped at one end on bevel at the right side to the longitudinal weld seam. Or
		Cl. No. 1.0 of 3LPE External coating line pipe	SOMA	ENERGY.	Pipe no. shall be stamped at one end with low stress dot punches at the outside surface of the pipe at a distance at least 2 cm of the end of pipe on the right side of the weld.

Pre-Bid Queries

40 Cl. 3.1.4.2 of annex E of GTS
E of GTS

	50	49	48	47	46	45	Sr.NO.	-
			GTS	GTS	PTS - Line Pipe	Cl. No. E2.2 of GTS	3LPE Spec.No.	
	9.11.1.1	9.3.3	8.6	4.53	8.5		3LPE Spec. Clause No.	
M	THE LABORATION OF THE PARTY OF						Section	
note.	Pipe length shall be between 10.0 and 14.0 m. Thickness wise average length of pipes supplied shall not be less than 12.5 m. The average length shall be cumulative as measured at Pipe mill despatch	At least one HAZ hardness indent shall be positioned in the coarse grain structure immediately adjacent to the fusion line.	Previously qualified WPS and PQR are valid provided all essential variables identified in Annex D, D.2.2 of API SPEC 5L are within the stated limits. The following essential variables shall also apply: a) Increase in parent metal carbon of more than 0.02%.	Over thickness of weld deposit : 2mm	Reverse Bend test for Pipes shall be carried out as per requirements Part — II [sec 3(i)], Annexure III of PNGRB Notification, 2008.	For angle beam scanning of the weld zone, the maximum number of legs of beam travel shall be 3 (1.5 skips) for detection of imperfections.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
	Provision of PTS clause B prevail, Clarification at S. No. 1 above	Hardness test to be carried out in HAZ shall be acceptable	Increase in carbon percentage for allowing previously qualified WPS/PQR is not acceptable However PQR/WPS conducted for same grade of steel (X-42) is acceptable	In view of the smaller thickness of line pipe over thickness of the weld deposit is retained to be 2 mm	Attached	Tender Documents shall Prevail	Clarification	

Marking: All dimensions and hydrostatic test pressure markings shall be in SI units.
Burst test to be done for each size and thickness at the time of first day production test.
Pipes shall be tested as one pipe per inspection lot of 50 pipes per heat (all tests as per Annex Q).
TPIA shall witness all mechanical/chemical testing on all heats and put the acceptance stamp on each coil/plate.
All pipes shall be checked for misalignment of weld beads.
Section Description

Sr.NO. 61 60 59 58 57 56 3LPE Spec.No. 3LPE Spec. 7.2.2 (e) Clause No. 5.2.3 (d) 5.2.3 (a) 5.2.3 © 4.3 Section shall-be sent to NABL approved external laboratory One sample at 80° C for 28 days CD ISO 527-3 Elongation at failure (Test method) Properties: Indentation hardness c) iv, Moisture content Test method performing the tests in item 4 of this that gives the lowest values when pipe body, weld centreline and HAZ; location shall be tested- the location temperatures). One HAZ notch +68°F) to M 50°C (-58°F) (_5 temperature range of +20° C (Transverse CVN transition curves for Tender No.: REPL/CUGL/STP/002/18 Pre-Bid Queries Section Description autonomus bodies like as approved or Gorvnment which are either NABL III/NIT Laboratory including laboratory acceptable method shall be ap per ISO Elongation at failure test is to be applicable. revision of Code /Standard Refer Cl 6.1 of GCC, latest is to be applicable. revision of Code /Standard Refer Cl 6.1 of GCC, latest manufacturer ASTM D570 clause 5.3.2 e recommandation or as per Moisture content test as per Test from outside 46th Edition shall prevail The provision of API 5L Clarification

Sr.NO. 64 63 62 3LPE Spec.No. 3LPE Spec. Clause No. 7.2.2 (i) 9.2.3 10.3 Section periphery of each pipe. distributed over the length and measurements at locations uniformly determined by taking at least 10 as per the directions of COMPANY representative. 80%, the adhesive and polyethylene material shall be dried using hot air submit the report to the customer. In case the relative humidity exceeds at the start of production shall The coating thickness shall be test as per DIN30670:2012 and prepare a sample and perform the Coating resistivity: the contractor Tender No.:REPL/CUGL/STP/002/18 Pre-Bid Queries **Section Description** remains unaltered be made available to client For drying Manufacturer The provision of this clause followed and copy should confirming to DIN 30670 recommandation shall be batch supplied and certificate from coating latest edition has been conducted on the accepted provided the test manufacture shall also be Coating resistivity test Clarification



67	66	65	Sr.NO.	
			3LPE Spec.No.	
12 Cl. No. 12.0 of 3LPE External coating line pipe	12	10.5.b Cl. No. 10.2.4 of 3LPE External coating line pipe	3LPE Spec. Clause No.	
ANGE ENERGY			Section	
Irrespective of type of repair, the coating shall be as follows: maximum numbers of repair of	Repair materials clearly establishing the compliance of the repair materials with the applicable coating requirements indicated in this specification.	Coated or one pipe per shift whichever is higher. On each Selected pipe, bond strength shall be performed for each specified temperature. Test shall be performed at each cut back portion and one in the middle of pipe. The system shall disband / separate cohesively either in adhesive layer or in polyethylene layer. Majority of the peeled off area on the pipe shall show presence of adhesive. Disbondment / separation at epoxy to steel interface or epoxy/ adhesive interface or adhesive/ polyethylene Interface shall not be permitted. The failure mode shall be recorded for each test.	Section Description	Pre-Bid Queries Tender No.:REPL/CUGL/STP/002/18
The repair generated due to test will not qualify for repair on account of coating failure.	The repairing of the coating shall be done by client approved repair coating material.	The provision of this clause will adherence to relevant code like ISO 21809-1	Clarification	