OIL INDIA LIMITED
(A Government of India Enterprises)
PO : Duliajan – 786602
Assam (India)
TELEPHONE NO. (91-374) 2808726
FAX NO: (91-374) 2800533
Email: matspofd@oilindia.in ; erp_mm@oilindia.in

TENDER NO. SSG6532P18/03 **DATE: 28.11.2017**

INVITATION TO e-BID UNDER SINGLE STAGE TWO BID SYSTEM

Dear Sirs,

OIL invites Bids for the supply of **Instrumentation Tubes & Fittings** through its e-Procurement site under **International Competitive Bidding (ICB) - Single Stage Two Bid System**. The bidding documents and other terms and conditions are available at Booklet No.MM/GLOBAL/E-01/2005-July2012. The prescribed Bid Forms for submission of bids are available in the tender document folder.

The general details of tender can be viewed by opening the RFx [Tender no.] under RFx and Auctions page. The details of items tendered can be found under Item tab and details can be found under Technical RFX.

The tender is invited with firm price for the specified quantity. Further details of tender are given in Technical Attachments under Rfx Information tab as **ANNEXURE IA.**

THE TENDER WILL BE GOVERNED BY:

a) "General Terms & Conditions" for e-Procurement as per Booklet No. MM/GLOBAL/E-01/2005-July2012 for E-procurement (ICB Tenders). Special attention to the bidders is drawn to Section – E of the document.

b) Technical specifications, Quantity and Notes for **Tubes & Fittings** as per **Annexure – IA**.

c) The prescribed Bid Forms for submission of bids are available in the Technical Rfx -> External Area - > Tender Documents. Technical Checklist and Commercial Checklist must be filled-up and submitted along with the technical bid.

d) The items covered by this enquiry shall be used by Oil India Limited in the PEL/ML areas which are issued/renewed after 01/04/99 and hence Nil Customs Duty during import will be applicable. Indigenous bidder shall be eligible for concessional rate of IGST against Essentiality Certificate **wherever applicable**, **as per notification No 3/2017- integrated tax (rate) dated 20th June, 2017**. In the event of an order on indigenous bidder, OIL will issue Project Authority Certificate (PAC), where import content is declared by the bidder for availing Custom Duty benefit on the import content. Supplier shall affect dispatch only on receipt of these certificates from OIL, failing which all related liabilities shall be to Supplier's account.

e) A certificate issued by a practicing Chartered/Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per format prescribed in "Annexure CA Certificate". The same must be submitted along with the bid.

SPECIAL NOTE:

1.0 Please note that all tender forms and supporting documents are to be submitted through OIL's e-Procurement site only except following documents which are to be submitted manually in sealed envelope super scribed with Tender no. and due date to **The GM-Materials, Materials Department, Oil India Limited, Duliajan- 786602, Assam** on or before **13:00 Hrs (IST)** on the Bid Closing Date mentioned in the Tender.

a) Original Bid Security.
b) Detailed Catalogue.
c) Any other document required to be submitted in original as per tender requirement.

All documents submitted in physical form should be signed on all pages by the authorised signatory of the bidder and to be submitted in triplicate.

2.0 Bidders are requested to examine all instructions, forms, terms and specifications in the bid. Failure to furnish all information required as per the NIT or submission of offers not substantially responsive to the bid in every respect will be at the bidders risk and may result in rejection of its offer without seeking any clarifications.

3.0 OIL INDIA LIMITED (OIL) has upgraded its E-tender Portal. As part of the new system, the intending bidder must have Encryption Certificate along with Digital Signature Certificate (DSC) of Class III [Organization]. The date for implementation of new system is 12th April 2017 and the requirement of the new DSC will be applicable for the tenders floated on 12th April 2017 onwards. All our current and prospective esteemed bidders are therefore requested to acquire Class III DSC [Organization] along with Encryption Certificate issued by any of the Licensed Certifying Authorities (CA) operating under Controller of Certifying Authorities (CCA) of India as per Indian IT Act 2000. Guideline for getting Digital Signature and other related information are available on the e-tender website www.oil-india.com. The bid signed using any other digital certificate or digital certificate without organization name of the bidder, will be liable for rejection.

4.0 Encryption certificate is mandatorily required for submission of bid. In case bidder created response using one certificate (using encryption key) and bidder subsequently changes the digital signature certificate then the old certificate (used for encryption) is required in order to decrypt his encrypted response for getting the edit mode of his response. Once decryption is done, the bidder may use his new DSC certificate for uploading and submission of his offer. It is the sole responsibility of the bidder to keep their DSC certificate properly. In case of loss of DSC certificate, Oil India Limited is not responsible.

5.0 Bidders must ensure that their bid is uploaded in the system before the tender closing date and time. Also, they must ensure that above documents which are to be submitted in a

sealed envelope are also submitted at the above mentioned address before 13:00 Hrs (IST) on the bid closing date failing which the offer shall be rejected.

6.0 **Two Bid System** shall be followed for this tender and only the price-bids of the bidders whose offers are commercially and technically acceptable shall be opened for further evaluation.

7.0 Please ensure that Technical Bid / all technical related documents related to the tender are uploaded in the Technical Attachments under Rfx Information tab only. The "TECHNO-COMMERCIAL UNPRICED BID" shall contain all techno-commercial details except the prices. **Please note that no price details should be uploaded in Technical RFx Response.**

8.0 The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. **The prices of the items should be quoted in "Notes and Attachments" tab as per the Price Bid Format uploaded.**

9.0 Please refer BEC/BRC under "Annexure-1B_BEC-BRC" applicable against this tender. Please ensure compliance to BEC/BRC and submit requisite documentation, failing which offer may be liable for rejection.

10.0 Bidders to take special note of the following conditions:

10.1 Against Tender Fee – Payment should be made only through online mode and no other instrument (Cash/DD/Cheques/Cashier Cheque, etc) will be acceptable.

10.2 Against Bid Security/EMD/Performance Bank Guarantee – Only payments through online mode or Submission of Bank Guarantee/LC will be acceptable. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.

11.0 OIL INDIA LIMITED (OIL) has upgraded its E-tender Portal. All the bidders are requested to go through the following document before uploading their bid. These document is also uploaded as part of NIT.

11.1 E-Tender User Manual.

Yours faithfully,

OIL INDIA LIMITED

Sd/-

(GITASREE SARMAH)
MANAGER MATERIALS (FS)
FOR GM-MATERIALS
FOR RESIDENT CHIEF EXECUTIVE

OIL INDIA LIMITED
(A Govt. of India Enterprise)
P.O. Duliajan-786602, Assam
Fax No. 91-374-2800533, E-mail:material@oilindia.in

Tender No. & Date : SSG6532P18/03 28.11.2017

Tender Fee : INR 12,000.00 OR USD 200.00
Bid Security Amount : INR 222,000.00 OR USD 3,450.00
(or equivalent Amount in any currency)

Bidding Type : Two Bid

Bid Closing On : 17.01.2018 at 13:00 hrs. (IST)
Bid Opening On : 17.01.2018 at 13:00 hrs. (IST)

Performance Guarantee : Applicable

OIL INDIA LIMITED invites Global tenders for items detailed below:

Item No./ Mat. Code	Material Description	Quantity	UOM
10 29760010	Spares & Accessories for Instruments "NEEDLE VALVE 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel valves. 2.0 ITEM DESCRIPTION NEEDLE VALVES Front End Connection Size: ½"" NPT (F) Back End Connection Size: ½"" NPT (F) Material of Construction: Valve: SS 316 Stem: SS 316 as per ASME SA479 / ASTM A 479/ ASTM A276 Stem Tip: SS 316 as per ASME SA479 / ASTM A 479/ ASTM A276 Handle: Stainless Steel BAR. Orifice :9.5 mm Cv :1.8 3.0 DESIGN AND MANUFACTURE 3.1 The valve body should be made out of material conforming to ASTM A182/ ASME SA 182 Gr. SS316. 3.2 Valves shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 4.0 TYPE TEST REPORTS & CERTIFICATES	150	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	4.1 Certificate of authorization from ASME, with N marking. 4.2 Third party inspection agency like ABS/BV/DNV/TUV/CE/ GERMANSCHIER LLOYDS conform body should be ASTM A 182 (Forged Steel) SS316. 4.3 ISO 9001:2008 certificate. 4.4 ISO 14001 certificate. 4.5 In house test report conforming Helium Leak Tight Integrity, 1 x 10-6 std.cc/sec or 1 x 10-6 atm.cc/sec. 5.0 MARKINGS, PACKING AND SHIPMENT 5.1 Material Test Certificate along with pressure test certificate shall be produced along with shipment. 5.2 Heat code traceability number shall be stamped on each valve. 5.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 5.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 5.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 6.0 GUARANTEE 6.1 The manufacturer shall guarantee that the design, materials, manufacturing and testing of valves comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all valves, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 6.2 The manufacturer shall guarantee the valves against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
20 29760011	NEEDLE VALVE 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel valves.	400	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	2.0 ITEM DESCRIPTION NEEDLE VALVES Front End Connection Size: ¼" NPT (F) Back End Connection Size: ¼" NPT (F) Material of Construction: Valve: SS 316 Stem: SS 316 as per ASME SA479 / ASTM A 479/ ASTM A276 Stem Tip: SS 316 as per ASME SA479 / ASTM A 479/ ASTM A276 Handle: Stainless Steel BAR. Orifice: 6.4 mm Cv : 0.73 3.0 DESIGN AND MANUFACTURE 3.1 The valve body should be made out of material conforming to ASTM A182/ ASME SA 182 Gr. SS316. 3.2 Valves shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 4.0 TYPE TEST REPORTS & CERTIFICATES 4.1 Certificate of authorization from ASME, with N marking. 4.2 Third party inspection agency like ABS/BV/DNV/TUV/CE/ GERMANSCHIER LLOYDS conform body should be ASTM A 182 (Forged Steel) SS316. 4.3 ISO 9001:2008 certificate. 4.4 ISO 14001 certificate. 4.5 In house test report conforming Helium Leak Tight Integrity, 1 x 10-6 std.cc/sec or 1 x 10-6 atm.cc/sec. 5.0 MARKINGS, PACKING AND SHIPMENT 5.1 Material Test Certificate along with pressure test certificate shall be produced along with shipment. 5.2 Heat code traceability number shall be stamped on each valve. 5.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 5.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 5.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 6.0 GUARANTEE 6.1 The manufacturer shall guarantee that the design, materials, manufacturing and testing of valves comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all valves, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 6.2 The manufacturer shall guarantee the valves against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
30 29760012	"MALE CONNECTOR (¼"" X ¼"")	1440	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size : ¼ inch NPT (M) X ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE		

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Item No./ Mat. Code	Material Description	Quantity	UOM
	7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
40 29760013	"MALE CONNECTOR (½"" X ½"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size : ½ inch NPT (M) X ½ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment.	1040	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
50 29760014	"MALE CONNECTOR (½"" X ¼"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size : ½ inch NPT (M) X ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer.	770	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect,failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
60 29760015	"MALE CONNECTOR (¼" X ½") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size : ¼ inch NPT (M) X ½ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting.	600	NO

Tender No. & Date : SSG6532P18/03 28.11.2017

Item No./ Mat. Code	Material Description	Quantity	UOM
	4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
70 29760016	"MALE CONNECTOR (¼"" X 3/8"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION	460	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	MALE CONNECTOR Size : ¼ inch NPT (M) X 3/8 inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A12/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or		

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Item No./ Mat. Code	Material Description	Quantity	UOM
	18 months from the date of supply, whichever is earlier."		
80 29760017	"TECHNICAL SPECIFICATION FOR ½" OD SS TUBE 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel tubes. 2.0 ITEM DESCRIPTION SEAMLESS FULLY ANNEALED SS TUBE Size ½" OD Material : SS316 Wall thickness : 0.049" 3.0 DESIGN AND MANUFACTURE 3.1 The tubes should be seamless fully annealed, as per ASTM A269. 3.2 Tubes shall be free of scratches, draw marks and with a maximum hardness of 90 Rb. 3.3 Tubes shall be rated for operating pressure of 200 kg/cm2 minimum and shall be suitable for Oil and Gas application. 4.0 PRODUCT TYPE TEST REPORTS & CERTIFICATES Supplier to provide Following test certificates : 4.1 Hardness test: Tubes should be certified as per NACE MR0175 for Hardness. 4.2 Ball test: Final test before delivery shall include ball test to ensure clear opening of the tube for SS tubes. The OD of the ball shall be standard as applicable for ½"" OD tubes. 4.3 NDT: Online Eddy Current test on 100% of the tube as per ASTM A450. 4.4 Sample material test certificate from manufacturer confirming maximum hardness of 90Rb. 5.0 SHIPMENT 5.1 The following information shall be marked on the tube. a. Name of the manufacturer b. Type and material grade of tube c. Tube OD and wall thickness. 5.2 Tubes shall be supplied in minimum length of 6 meters without brazing in between. 5.3 The tubes shall be plugged at both ends to avoid entry of any foreign matter. 5.4 All items shall be adequately packed to withstand shipping conditions without damage. 6.0 GUARANTEE 6.1 The manufacturer shall guarantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 6.2 The manufacturer shall guarantee the fittings against any defect, failure or	360	M

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Item No./ Mat. Code	Material Description	Quantity	UOM
	malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
90 29760018	"TECHNICAL SPECIFICATION FOR ¼"" OD SS TUBE 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel tubes. 2.0 ITEM DESCRIPTION SEAMLESS FULLY ANNEALED SS TUBE Size : ¼"" OD Material : SS316 Wall thickness : 0.035" 3.0 DESIGN AND MANUFACTURE 3.1 The tubes should be seamless fully annealed, as per ASTM A269. 3.2 Tubes shall be free of scratches, draw marks and with a maximum hardness of 90 Rb. 3.3 Tubes shall be rated for operating pressure of 200 kg/cm2 minimum and shall be suitable for Oil and Gas application. 4.0 PRODUCT TYPE TEST REPORTS & CERTIFICATES Supplier to provide Following test certificates : 4.1 Hardness test: Tubes should be certified as per NACE MR0175 for Hardness. 4.2 Ball test: Final test before delivery shall include ball test to ensure clear opening of the tube for SS tubes. The OD of the ball shall be standard as applicable for ¼"" OD tubes. 4.3 NDT: Online Eddy Current test on 100% of the tube as per ASTM A450. 4.4 Sample material test certificate from manufacturer confirming maximum hardness of 90Rb. 5.0 SHIPMENT 5.1 The following information shall be marked on the tube. a. Name of the manufacturer b. Type and material grade of tube c. Tube OD and wall thickness. 5.2 Tubes shall be supplied in minimum length of 6 meters without brazing in between. 5.3 The tubes shall be plugged at both ends to avoid entry of any foreign matter. 5.4 All items shall be adequately packed to withstand shipping conditions without damage. 6.0 GUARANTEE 6.1 The manufacturer shall guarantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship.	1608	M

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	6.2 The manufacturer shall guarantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
100 29760019	"EQUAL TEE ½"" 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION EQUAL TEE Size : Size: ½ inch OD Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy	615	NO

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	identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
110 29760020	"UNION ½"" 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION UNION Size : ½ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes.	480	NO

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	5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
120 29760021	"UNION ¼ "" 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION UNION Size : ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application.	910	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
130 29760022	"SS NIPPLE (½"" X 2"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION SS NIPPLE Size : 1/2 inch NPT(M) X 2 inch Long Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90.	310	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
140 29760023	"BALL VALVE 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel valves.	140	NO

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	2.0 ITEM DESCRIPTION BALL VALVE Front End Connection Size: ¼ "" NPT (F) Back End Connection Size: ¼ "" NPT (F) Material of Construction: Valve: Stainless Steel (ASTM A 182 Gr SS316) Stem: Stainless Steel (ASTM A 479 Gr SS316/ASME SA 479 SS316/ ASTM A276 SS316) End connector: Stainless Steel (ASTM A 479 Gr SS316/ASME SA 479 SS316/ ASTM A276 SS316) Ball: Stainless Steel SS 316 Seat Material: PEEK Orifice: 10 mm (approx.) Cv: 6.4 (approx.) 3.0 DESIGN AND MANUFACTURE 3.1 The valve body, packing bolt should be made out of material conforming to ASTM A182/ ASME SA182. 3.2 Material of construction of ball should be conforming to ASME SA479/ ASTM A479Gr SS316/ ASTM A276. 3.2 Valves shall be rated for at least the operating pressure of 150 Kg/cm2 of Oil and Gas application. 3.3- Manufacturer should submit API-6D/6A certificate along with offer. 4.0 TYPE TEST REPORTS & CERTIFICATES 4.1 Third party inspection agency like ABS/ BV/ DNV/ TUV/ CE/ GERMANSCHIER LLOYDS conform Forged Steel Ball valves in High Pressure Piping System conforming to ASTM A182/ ASME SA182. 4.2 Each valve should be tested with Nitrogen @1000 psig (69 bar) to max leak rate of 0.1 std cm3/min. 4.3 ISO 9001:2008 certificate. 4.4 ISO 14001 certificate. 5.0 MARKINGS, PACKING AND SHIPMENT MARKINGS, PACKING AND SHIPMENT 5.1 Material Test Certificate along with pressure test certificate shall be produced along with shipment. 5.2 Heat code traceability number shall be stamped on each valve. 5.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 5.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 5.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 6.0 GUARANTEE 6.1 The manufacturer shall guarantee that the design, materials, manufacturing and testing of valves comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all valves, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship.		

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	6.2 The manufacturer shall guarantee the valves against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
150 29760025	"FEMALE CONNECTOR (½"" X ½"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION FEMALE CONNECTOR Size : ½ inch NPT (F) X ½ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4 x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be	260	NO

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	preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
160 29760030	"3/8" FRONT & BACK FERRULE PAIR 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum)for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION Size : 3/8 " FRONT AND BACK FERRULE PAIR Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182.	440	NO

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	6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of the specification and application codes and standards. manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
170 29760031	"REDUCING TUBE UNION ½" OD(T) x ¼" OD(T) 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum)for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION Size : 1/2 " OD(T) X 1/4" OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and bodysuitable for use on SS316/SS316L seamless tubes conforming to ASTM A269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer.	320	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec.or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 Certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design,materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards.Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect,failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
180 29760032	"EQUAL TEE 3/8" 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION EQUAL TEE Size: 3/8 inch OD Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE	210	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	4.0 DESIGN & MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CEERTIFICATES The manufacturer shall provide valid type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec.or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
190 29760033	"EQUAL TEE ¼" 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION EQUAL TEE Size : Size: 1/4 inch OD Material : SS316	350	NO

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	3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec.or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
200	"UNION 3/8" OD (T)	200	NO

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29760034	1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION Size : 3/8 inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec. or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace		

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	all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
210 29760035	"MALE CONNECTOR (3/8"x ¼") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size :3/8 inch NPT (M) X ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction,consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec. or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough	300	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
220 29760036	"¼" FRONT AND BACK FERRULE PAIR 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION Size : 1/4 " FRONT AND BACK FERRULE PAIR Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes.	1325	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design,materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
230 29760037	"MALE CONNECTOR (1/8"x ¼") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size :1/8 inch NPT (M) X ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following	490	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
240 29760038	"MALE CONNECTOR (3/8""x ½"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size : 3/8 inch NPT (M) X 1/2 inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimumRb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE	300	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES 5.1 Certificate of authorization from ASME, with NPT making. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
250 29760039	"FEMALE CONNECTOR (½""x ¼"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION MALE CONNECTOR Size :1/2 inch NPT (F) X ¼ inch OD(T) Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182.	310	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
260 29760040	"TUBE PLUG (3/8"") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings.	200	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	2.0 ITEM DESCRIPTION TUBE PLUG Size :3/8 inch TUBE PLUG Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4x 1.-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or		

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Item No./ Mat. Code	Material Description	Quantity	UOM
	malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
270 29760041	"TUBE PLUG (1/8") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION TUBE PLUG Size : 1/8 inch TUBE PLUG Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition.	200	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
280 29760042	"TUBE PLUG (¼") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION TUBE PLUG Size : 1/4 inch TUBE PLUG Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9 std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT	250	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		
290 29760043	"TUBE PLUG (½") 1.0 SCOPE This specification covers the purchaser's requirements (as a minimum) for design, material of construction, marking, testing and supply of high pressure stainless steel ferrule fittings. 2.0 ITEM DESCRIPTION TUBE PLUG Size : 1/2 inch TUBE PLUG Material : SS316 3.0 MATERIALS 3.1 Fittings shall be manufactured from the following materials i. Bar stock shall be as ASTM A479 / ASME SA 479/ASTM A276. ii. Forgings shall be (Elbows, crosses, and tees.) ASTM A182/ASME SA182. 3.2 Hardness of the fitting should be minimum Rb 90. 3.3 All parts shall be made of SS 316. 3.4 The ferrule material shall be able to withstand an atmosphere of natural gas, oil and Moisture without rusting. 4.0 DESIGN AND MANUFACTURE 4.1 The SS fittings shall be of flare less design and four piece construction, consisting of, front and rear ferrules, nut and body suitable for use on SS316/SS316L seamless tubes conforming to ASTM A 269/ ASTM A 213. 4.2 Fittings shall be rated for at least the operating pressure of 200 Kg/cm2 of Oil and Gas application. 5.0 TYPE TEST REPORTS & CERTIFICATES The Manufacturer shall provide Valid Type Test Reports for all the following tests mentioned below along with their offer. 5.1 Certificate of authorization from ASME, with NPT marking. 5.2 In house test report conforming Helium Leak Tight Integrity, 4 x 10-9	230	NO

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Item No./ Mat. Code	Material Description	Quantity	UOM
	std.cc/sec or 4x 10-9 atm.cc/sec or 4x 10-9 atm.cc/sec. 5.3 ISO 9001:2008 certificate. 5.4 ISO 14001 certificate. 5.5 Re-make ability Test should undergo testing conducted to evaluate the performance of the tube fittings after every re-make for 25 such re-makes. 5.6 Type Test Certificates from TUV or ABS or DNV or BV conforming to ASTM A479 / ASME SA 479/ ASTM A276/ ASTM A182/ASME SA182. 6.0 MARKINGS, PACKING AND SHIPMENT 6.1 Material Test Certificate shall be produced along with shipment. 6.2 Heat code traceability number shall be stamped or etched on both nut and ferrules (front and back) of each fitting. 6.3 All items shall be suitably wrapped and packaged to withstand rough handling during shipment and inland journey. 6.4 Items shall be properly tagged and packaged separately to facilitate easy identification. 6.5 Items shall be wrapped and packaged in such a way that they can be preserved in original as new condition. 7.0 WARRANTEE 7.1 The manufacturer shall warrantee that the design, materials, manufacturing and testing of fittings comply with the requirements of this specification and applicable codes and standards. Manufacturer shall replace all fittings, which are defective or fail during field pressure testing or fail to perform satisfactorily due to inadequate engineering, sub standard material and workmanship. 7.2 The manufacturer shall warrantee the fittings against any defect, failure or malfunctioning occurring during 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier."		

Note description for item no./nos. : 230, 240, 250, 260, 270, 280, 290

Special Notes : 1. The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidder has to submit both the "TECHNO-COMMERCIAL UNPRICED BID" and "PRICED BID" bid through electronic form in the OIL's e- Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. The "TECHNO-COMMERCIAL UNPRICED BID" is to be submitted as per Scope of Work & Technical Specification of the tender and "PRICED BID" as per the Price Bid format uploaded under "Notes and Attachments" tab.

2. In Technical Bid opening, only Technical Rfx will be opened. Therefore, the bidder should ensure that "TECHNO-COMMERCIAL UNPRICED BID should contain details as mentioned in the technical specifications as well as BEC/ BRC. No price should be given in above Technical bid otherwise the offer will be rejected. Please go through the help documents in details before uploading the document and ensure uploading of technical bid as per the instructions. The "PRICE BID" must contain the price schedule and the bidder's commercial terms and conditions. Price bid to be submitted under "Notes and Attachments" tab.

3. Bid should be valid for minimum 120 days from bid closing date, failing which offer shall

be rejected.

4. The original bid security (Amount is mentioned above and also in Rfx Parameters of the tender in OIL's e-portal) should reach us before bid closing date and time of the technical bid. Bid without original Bid Security will be rejected. The bidders who are exempted from submitting the Bid Bond should attach documentary evidence in the TECHNO-COMMERCIAL BID as per clause 9.8 of Section A General Terms and conditions for Global Tender (MM/GLOBAL/E-01/2005-July2012). The bid security shall be valid up to 15.08.2018. Only payments through online mode or Submission of Bank Guarantee/LC will be acceptable. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.

5. Successful bidder shall be required to furnish a Performance Security equivalent to ten percent (10%) of total order value till the completion of the warranty period of the last supplied material. Bidders should undertake in their bids to submit Performance Security as stated above and also extend the validity of the EMD as and when requested by OIL till the release of the same. Performance security in form of Bank Guarantee/LC will be acceptable. No DD/Cheques/Cashier Cheque or any other mode will be acceptable.

6. PRICED BIDS OF ONLY THOSE BIDDERS WILL BE OPENED WHOSE OFFERS ARE FOUND TECHNICALLY ACCEPTABLE. THE TECHNICALLY ACCEPTABLE BIDDERS WILL BE INFORMED BEFORE OPENING OF THE "PRICED BID".

7. Bidders to note that Govt. of India under Micro, Small and Medium Enterprises Development (MSMED) Act 2006, has proclaimed the Public Procurement Policy, 2012 with effect from 1st April, 2012 in respect of procurement of goods and services, produced and provided by micro and small enterprises, by its Ministries, Departments and Public Sector Undertakings for promotion and development of Micro and Small Enterprises. A new Clause on applicability of Public Procurement Policy for procurement of goods from Micro and Small Enterprises(MSE) in the tender is furnished vide Amendment to General Terms and Conditions for Global Tender (MM/GLOBAL/E-01/2005-JULY2012). Bidders are requested to take note of the same and to submit their offers accordingly.

8. To ascertain the substantial responsiveness of the bid OIL reserves the right to ask the bidder for clarification in respect of clauses covered under BRC also and such clarifications fulfilling the BRC clauses in to must be received on or before the deadline given by the company, failing which the offer will be summarily rejected.

9. General terms and conditions of Global tender (document MM/GLOBAL/E-01/2005 - July 2012) is enclosed.

10. The Integrity Pact is applicable against this tender. Therefore, please attach the Integrity Pact document duly signed along with your quotation as per BRC. The name of the OIL's Independent External Monitor at present are as under:
1. SHRI RAJIV MATHUR, IPS (Retd.),
2. SHRI SATYANANDA MISHRA, IAS(Retd.)
3. SHRI JAGMOHAN GARG, Ex-Vigilance Commissioner, CVC
The email ids are furnished in OIL's website, www.oil-india.com

11. GST (Goods & Service Tax) will be cost loaded as quoted and in line with provisions of the bidding document. Any claim subsequently by the bidders for additional payment/liability shall not be admitted and has to be borne by the bidders. For GST clause please refer Annexure-GST.

12. Purchase Preference on Local Content is applicable against this tender. Please refer the Special Notes in this document for the applicable clause.

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13. CONFIRMATION OF BID SECURITY / PERFORMANCE SECURITY:
The following clause is applicable for bid security / performance security submitted in the form of bid bond/LC. Bidders are requested to strictly comply to this clause:

The bank guarantee issued by the bank must be routed through SFMS platform as per following details:

a. (i) "MT 760 / MT 760 COV for issuance of bank guarantee
(ii) "MT 767 / MT 767 COV for amendment of bank guarantee
The above message / intimation shall be sent through SFMS by the BG issuing bank branch to:
Axis Bank, Duliajan Branch, IFS Code - UTIB0001129.
Branch Address - AXIS Bank Ltd, Duliajan Branch, Daily Bazar, Jyotinagar Duliajan, District - Dibrugarh, Pin - 786602."

b. The vendor shall submit to OIL the copy of SFMS message as sent by the issuing bank branch along with the original bank guarantee.