


<div>NSRP</div> <div>STG3 Replacement Project</div>	<div></div> <div>Nghi Son Refinery and Petrochemical Limited Liability Company</div>	<div>Doc. No.</div> <div>S-113-217Z-0001PH</div>	
		<div>Rev. 0</div>	<div>Page 1 of 13</div>
<div>Contractor Job No.: 144/2024/NSRP.CPSP-PTSC</div>		<div>Date: 02-Jun-2025</div>	

MATERIAL APPROVAL REQUEST FOR INSTRUMENT CABLE


Unit No.: **Not Applicable**

Unit Abbreviation.: -

Document Class: X

Issue Purpose	For Purchase
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Rev	Date	Page	Description	Prepared	Reviewed	Approved
0	02-Jun-25	All	Issue for Purchase	T.V.Duc	N.N.Lap	N.B.Tuan
B	22-May-25	All	Issue for Approval	T.V.Duc	N.N.Lap	N.B.Tuan
A	03-Apr-25	All	First Issue	T.V.Duc	N.N.Lap	N.B.Tuan

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MATERIAL APPROVAL REQUEST (MAR)

Project:	STG3 Replacement Project		
Owner Name:	Nghi Son Refinery and Petrochemical LLC		
Contractor Name	PetroVietnam Technical Services Corporation (PTSC)		
Contractor JOB Code:	N/A		
Subcontractor:	N/A		
MAR No:	S-113-217Z-0001PH	Rev No.:	0


Description of Material:	Instrument Cable
Requirement / Reference / Specification: (Inception no as applicable)	
Purpose / Intend of Use:	Installation
Vendor / Supplier:	LS Vina, Helukabel

<u>Discipline:</u> <input type="checkbox"/> Mechanical <input type="checkbox"/> Electrical <input type="checkbox"/> Pire Proofing <input type="checkbox"/> Civil <input checked="" type="checkbox"/> Instrument <input type="checkbox"/> Painting <input type="checkbox"/> Architectural <input type="checkbox"/> Structural <input type="checkbox"/> Tanks <input type="checkbox"/> Piping <input type="checkbox"/> Insulation <input type="checkbox"/> Others	Manufacturer Name and Brand: - LS Vina (Vendor list) - Helukabel
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Manufacturer in Vendor List	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Conformance to Specification	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

<u>Attachments:</u>	
<input checked="" type="checkbox"/> Profile	<input checked="" type="checkbox"/> Supplier Specification
<input checked="" type="checkbox"/> Catalogue	<input checked="" type="checkbox"/> Certification (Sample)
<input checked="" type="checkbox"/> Data sheet	<input type="checkbox"/> Reference List
<input type="checkbox"/> Sample	<input type="checkbox"/> Deviation List

Contractor (PTSC) <hr/> Notes / Comments: We selected the qualified suppliers who follow the project requirements and ITP.
Name: _____ Signature: _____ Date: _____

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<u>Owner (APT)</u>			
Notes / Comments:		Construction Manager Notes / Comments:	
<input type="checkbox"/> Approved <input type="checkbox"/> Approved with Comments <input type="checkbox"/> Rejected			
Name:		Name:	
Signature: Date:		Signature: Date:	
<u>NSRP</u>			
Notes / Comments:		Construction Manager Notes / Comments:	
<input type="checkbox"/> Approved <input type="checkbox"/> Approved with Comments <input type="checkbox"/> Rejected			
Name:		Name:	
Signature: Date:		Signature: Date:	

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1. PURPOSE

The purpose of this submission document is to propose Instrument Cable to use for the STG3 Replacement Project.


2. REFERENCE

- ✓ S-000-1378-0001V: Specification for Instrument Cable


3. PROPOSE

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No	Code	Detail Specification	Service	Propose Manufacture Spec	Meet Requirement	Manufacturer	Remark
1	A22J02BK	2 core x 6.0mm ² circular, stranded, XLPE insulated, PVC Bedding, SWA, Black PVC Sheath To IEC 60502-1. Core Colours, Red, Black.	AC Power	0.6/1kV Cu/XLPE/PVC/SWA/Fr-PVC-AMS 2x6mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 1, 2
2	B12C04BK	4 twisted pair, 0.75mm ² stranded (7/0.37), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath 300V. To EN 50288-7, Core Colours White, Black and numbered pairs.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 4Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 7, 8
3	B12C08BK	8 twisted pair, 0.75mm ² stranded (7/0.37), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath 300V. To EN 50288-7, Core Colours White, Black, and numbered pairs.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 8Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 7, 8

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4	B12C16BK	16 twisted pair, 0.75mm ² stranded (7/0.37), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath 300V. To EN 50288-7, Core Colours White, Black, and numbered pairs.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 16Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 7, 8
5	B12C24BK	24 twisted pair, 0.75mm ² stranded (7/0.37), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath 300V. To EN 50288-7, Core Colours White, Black, and numbered pairs.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 24Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 7, 8
6	B12D01BK	Single twisted pair, 1.0mm ² stranded (7/0.43), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath, 300V. To EN 50288-7, Core Colours White, Black.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S. Digital Signals (Frequency or Pulse) N.I.S. Low Level Analogue Signals N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 1Px1mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 5, 6

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7	B12D02BK	2 twisted pair, 1.0mm ² stranded (7/0.43), PE insulated, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath, 300V. To EN 50288-7, Core Colours White, Black, and numbered pairs.	Analogue Signals N.I.S. Digital Alarm Status & Control Signals (except SOV) N.I.S.	300V Cu/PE/PVC/SWA/Fr-PVC-AMS 2Px1mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 7, 8
8	B32C04BK	4 twisted pair, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, and numbered pairs. Fire Resistant to IEC 60331-21.	Analogue Signals N.I.S. Fire Resistant Digital Alarm Status & Control Signals (except SOV) N.I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-AMS 4Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 13, 14
	B32C16BK	16 twisted pair, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, and numbered pairs. Fire Resistant to IEC 60331-21.	Analogue Signals N.I.S. Fire Resistant Digital Alarm Status & Control Signals (except SOV) N.I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-AMS 16Px0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 13, 14

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9	B32D01BK	Single twisted pair, 1.0mm ² stranded (7/0.43), Mica + XLPE insulated, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath, 500V. Generally to EN 50288-7, Core Colours White, Black. Fire Resistant to IEC 60331-21.	Analogue Signals N.I.S. Fire Resistant Digital Alarm Status & Control Signals (except SOV) N.I.S. Fire Resistant Digital Signals (Frequency or Pulse) N.I.S. Fire Resistant Low Level Analogue Signals N.I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-AMS 1Px1mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 13, 14
	B32F02BK	2 twisted pair, 1.5mm ² stranded (7/0.53), Mica + XLPE insulated, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath, 500V. Generally to EN 50288-7, Core Colours White, Black, and numbered pairs. Fire Resistant to IEC 60331-21.	Solenoid Valve N.I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-AMS 2Px1.5mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 13, 14

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10	B32G08BK	8 twisted pair, 2.5mm ² stranded (7/0.67), Mica + XLPE insulated, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath, 500V. Generally to EN 50288-7, Core Colours White, Black, and numbered pairs. Fire Resistant to IEC 60331-21.	Solenoid Valve N.I.S. Fire Resistant Only use 2.5mm ² when to overcome "Volt Drop" problems	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-AMS 8Px2.5mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 13, 14
	C12D01BK	Single twisted triad, 1.0mm ² stranded (7/0.43), PE insulated, Plastic Tape, Screen, PVC Sheath, SWA, Black PVC Sheath, 300V. To EN 50288-7, Core Colours White, Black, Red.	Digital Signals (Frequency or Pulse) N.I.S. Resistance Thermometer Signals N.I.S./I.S Low Level Analogue Signals N.I.S.	300V Cu/PE/PVC/SWA/Fr- PVC-AMS 1Tx1mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 5, 6
11	C16C08BK	8 twisted triad, 0.75mm ² stranded (7/0.37), PE insulated, Individual triad Screen, Plastic Tape, O/A Screen, PVC Sheath, SWA, Black PVC Sheath 300V. To EN 50288-7, Core Colours White, Black, Red, and numbered triads.	Low Level Analogue Signals N.I.S. Digital Signals (Frequency or Pulse) N.I.S. Resistance Thermometer Signals N.I.S./I.S.	300V Cu/PE/PVC/SWA/Fr- PVC-I/CAMS 8Tx0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 9, 10

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12	C34C04BL	4 twisted triad, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Individual triad Screen, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Light Blue LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, Red, and numbered triads. Fire Resistant to IEC 60331-21.	Low Level Analogue Signals I.S. Fire Resistant Digital Signals (Frequency or Pulse) I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-I/CAMS 4Tx0.75mm ² Outer Sheath: Light Blue	Yes	LS Vina	Datasheet page 15, 16
13	C34C08BK	twisted triad, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Individual triad Screen, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, Red, and numbered triads. Fire Resistant to IEC 60331-21.	Low Level Analogue Signals N.I.S. Fire Resistant Digital Signals (Frequency or Pulse) N.I.S. Fire Resistant Resistance Thermometer Signals N.I.S./I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-I/CAMS 8Tx0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 15, 16

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14	C34C08BL	8 twisted triad, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Individual triad Screen, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Light Blue LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, Red, and numbered triads. Fire Resistant to IEC 60331-21.	Low Level Analogue Signals I.S. Fire Resistant Digital Signals (Frequency or Pulse) I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-I/CAMS 8Tx0.75mm ² Outer Sheath: Light Blue	Yes	LS Vina	Datasheet page 15, 16
15	C34C12BK	12 twisted triad, 0.75mm ² stranded (7/0.37), Mica + XLPE insulated, Individual triad Screen, Plastic Tape, O/A Screen, LSZH Sheath, SWA, Black LSZH Sheath 500V. Generally to EN 50288-7, Core Colours White, Black, Red, and numbered triads. Fire Resistant to IEC 60331-21.	Low Level Analogue Signals N.I.S. Fire Resistant Digital Signals (Frequency or Pulse) N.I.S. Fire Resistant Resistance Thermometer Signals N.I.S./I.S. Fire Resistant	500V Cu/Mica/XLPE/LSZH/SWA/L SZH-I/CAMS 12Tx0.75mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 15, 16

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16	TK12E01G N	Single twisted pair 1.3mm ² solid (1/1.29mm), PE insulated, Plastic Tape, Screen, PVC Sheath, SWA, Green PVC Sheath, 300V. To EN 50288-7, Core Colours Green (+), White (-). Extension Cable Type KX for Type K Nickel-Chromium/Nickel-Aluminium T/C, in accordance with IEC 60584-3.	Thermocouple Signals (Type K T/C) N.I.S/I.S.	KX/PE/OSCR/PVC/SWA/PV C-FR-UV 1PR x 1.3mm ² Outer Sheath: Green	Yes	Helukabel	Datasheet page 17
17	B12G01B K	Single twisted pair, 2.5mm ² stranded (7/0.67), PE insulated, Plastic Tape, Screen, PVC Sheath, SWA, Black PVC Sheath, 300V. Generally to EN 50288-7, Core Colours White, Black.	Solenoid Valve N.I.S. Only use 2.5mm ² when to overcome "Volt Drop" problems	500V Cu/PE/PVC/SWA/Fr-PVC-AMS 1Px2.5mm ² Outer Sheath: Black	Yes	LS Vina	Datasheet page 5, 6

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4. DATASHEET

Attachment 1: Datasheet

5. MANUFACTURE PROFILE

Attachment 2.1: LS Vina Profile

Attachment 2.2: Helukabel Profile

6. SAMPLE CERTIFICATE

Attachment 3.1: LS Vina Sample Certificate

Attachment 3.2: Helukabel Sample Certificate