

Package Number	HV-P0-0267
Package Name	Electrical + Instrument + Telecom Cables (Integration)
Scope of Work (* To be confirmed)	<p><i>*Note: Scope of supply may be split into several awards, to different vendors, depending on technical, commercial, delivery schedule, and stock management capability evaluation.</i></p> <p>Scope of supply shall include, but is not limited to system design, engineering, procurement, fabrication, manufacture, supply, testing, preservation, identification, documentation, packing and delivery to relevant fabrication yards.</p> <p>The cables shall be technically and economically designed for safe use. The design shall meet the Class requirements, COMPANY operational requirements and CLIENT's expectations. Cables shall be designed for a service life of at least 25 years in an offshore marine environment.</p> <p>All cables shall be of the marine / offshore type and approved by the Class. All cables shall be flame retardant except for safety critical system, which shall be fire resistant. The specification of bus cables is dependent on the hardware to which they are connected. The bus cables shall be selected following consultation with the Supplier.</p> <p>Cables shall be sheathed with thermoplastic, thermosetting, or elastomeric material. They shall be circular and compact. Any bedding or sheath shall be extruded. Fillers, if any, shall be non hygroscopic, in accordance with IEC 60079-14, Clause 9.3.2 (a).</p> <p>The cables shall have the following minimum cross sectional area:</p> <ul style="list-style-type: none"> • Medium voltage (>1000 V): 25 mm² • Lighting and power distribution: 2.5 mm² • Control (Electrical and DALI): 1.5 mm² • Solenoid valves (internally on skid or module): 1.5 mm² • All other solenoid valves: 2.5 mm² • Instrumentation (internally on skid or module): 0.75 mm² • All other Instrumentation: 1.5 mm² <p>The cable grade shall be as follows:</p> <ul style="list-style-type: none"> • 13.8 kV and 11 kV system: 8.7 / 15 (17.5) kV cables shall be used • 6.6 kV system: 6 / 10 (12) kV cables shall be used • 690 V, 440 V and 230 V systems: 0.6 / 1 (1.2) kV cables shall be used • 24 V d.c., instrument: 250 V cables shall be used <p>Cable Armour</p> <p>Cables armour / braiding shall be of copper. The armour of power cables shall be used as the earth conductor where applicable. All non-armoured power cables and control cables shall be provided with a separate earth conductor. For cables less than or equal to 16 mm², the size of the armour CSA shall be at least equal to the CSA of the power conductor (minimum 1.5 mm²). For cables greater than 16 mm², the size of the armour CSA shall be at least equal to half the CSA of the power conductor. The CSA of the armour shall be stated on the datasheet.</p>

Cable Screens

Collective screens shall be used on multi-pair / multi-triad signal cables, where the signals carried are not sensitive to electromagnetic interference, such as digital signals. Individual screens shall be used on multi-pair / multi-triad signal cables, where the signals carried are sensitive to electromagnetic interference, such as analogue input/output (4-20 mA), RTDs /thermocouple (low levels of mA), vibration probes (mV) etc.

Colour of Cable Sheath and Cores

The outer sheath of all cables shall have the following colours:

- Medium voltage cables: Red
- Low voltage power cables: Black
- Low voltage control cables: Black
- Low voltage VFD cables Black
- Instrument cables: Grey
- Communication cables: Grey
- IS Instrument cables: Blue
- Protective earth: Green / Yellow
- Instrument earth: Green / Yellow with Red mark at each end
- IS earth: Green / Yellow with Blue mark at each end

The insulated conductors (cores) shall have the following colours:

- Medium voltage cables
 - 1 core Black
 - 3 core Black – Brown – Grey
 - 3 core + Earth Black – Brown – Grey – Green / Yellow
- Power and control cables
 - 1 core Black
 - 2 core Black – Brown (for IT applications without Neutral)
 - 2 core + Earth Black – Brown – Green / Yellow
 - 2 core Brown – Blue (for TN-S applications using Neutral)
 - 2 core + Earth Brown – Blue – Green / Yellow (for TN-S applications using Neutral)
 - 3 core Black – Brown – Grey (for 3-phase applications without Neutral)
 - 3 core + Earth Black – Brown – Grey– Green / Yellow (for 3-phase applications without Neutral)
 - 4 core Black – Brown – Grey – Blue (for 3-phase applications using Neutral)
 - 4 core + Earth Black – Brown – Grey – Blue – Green / Yellow (for 3-phase applications using Neutral)
- Multicore Black numbers on white base

- Low voltage VFD cables
 - 3 cores + 3 E Black – Brown – Grey + 3 x Green / Yellow earth cores
- Low voltage DALI lighting cables
 - 5 core Unarmoured: L1 (Black) / L2 (Brown) / Earth (Green / Yellow) / DALI+ (Red) / DALI- (White)
 - 4 core Armoured: L1 (Black) / L2 (Brown) / DALI+ (Red) / DALI- (White)
 - 2 core Unarmoured: DALI+ (Red) / DALI- (White)
 - 2 core Armoured: DALI+ (Red) / DALI- (White)
- Instrument cables
 - Pair Black – Light Blue (with numbers printed on cores for multi-pairs)
 - Triple Black – Light Blue – Brown (with numbers printed on cores for multitriads)

Marking on Cables

The cables shall be provided with markings through its entire length with the interval of one (1) metre. The markings shall contain the following information:

- Manufacturer's name;
- Rated voltage;
- Cable type (RFOU / BFOU / RU / BU / RFOU(VFD) / RX / RFOU(i) / BFOU(i) / RFOU(c) / BFOU(c) / RU(i) / BU(i) / RU(c) / BU(c));
- Number of cores / pairs / triples and size of conductor;
- Year of manufacture;
- Applicable IEC standards;
- Length of cable in metres / metre marks.

The marking on coaxial cables shall contain the following information:

- Manufacturer's name;
- Cable type;
- Jacket;
- Applicable IEC standards;


The marking on fibre optic cables shall contain the following information:

- Manufacturer's name;
- Cable type;
- Jacket;
- Number of fibres;
- Arrow (pointing to the running end of the cable)
- Applicable IEC standards;

Marking on Drum

As a minimum the following information shall be provided on the flange of the drum:

- Manufacturer's name;
- Cable type (RFOU / BFOU / RU / BU / RFOU(VFD) / RX / RFOU(i) / BFOU(i) / RFOU(c) / BFOU(c) / RU(i) / BU(i) / RU(c) / BU(c)) / Coaxial cable type / Optical fibre type;
- Number of cores and size of conductor;
- Rated voltage;
- Gross weight;
- Net weight;
- Drum number;

	<ul style="list-style-type: none"> • Project name. <p>Cable Management Services</p> <p>The supplier shall prepare the Drum Schedule based on the various cable schedule information received from BWO. Cable order to be based on the drumming and focus on avoiding cable wastage</p> <p>The supplier shall assign a dedicated resource at the Yard facility as required to manage the cables and cable drums. Monitor the cable usage at yard and highlight if top ups required to be ordered.</p> <p>Estimated contract award: Q2 2023 * Estimated delivery: Q3 2023 FCA factory *</p>
	<p>Preliminary MTO:</p>  <p>Integration Cables MTO_Rev2.xlsx</p> <p>MTO also attached as appendix.</p>

Project Registration

Santos is committed to ensuring Australian Industry the opportunity to participate in the Barossa Project. Expressions of Interest are invited from contractors and suppliers with the relevant capability and capacity to undertake the scope of work.

This is a request for specific expressions of interest. Contractors and suppliers will be considered for prequalification and tender if suitably qualified against this package.

Scope level definition:

Full scope: Able to produce / supply all the package.

All registrations are to be completed via ICN Gateway BarossaOffshore.icn.org.au. Please contact the ICNNT if registration assistance is required. Contact details: (08) 8922 9422 [or resources@icnnt.org.au](mailto:resources@icnnt.org.au).

Project Website: Santos Australia

TITLE: ELECTRICAL CABLES MTO SUMMARY (Integration)				
ITEM No.	BRIEF DESCRIPTION (Shall be updated based on selected supplier data)	UNIT	IFU-2 INTEGRATION MTO TOTAL QUANTITY (With Spare)	Remarks
11	MV POWER CABLE			
11.1	<p>8.7/15kV RFOU,Class 2,Stranded tinned annealed copper conductor,Semi-conducting layer (tape / compound),EPR insulated,insulation screen shall consist of a non-metallic semi-conducting part in combination with a metallic part. Inner covering of extruded layer of Halogen-Free Compound (HFC) and a binder tape applied over it. Armour of Braided tinned annealed copper wire and binder tape applied over armour. Outer sheath shall be an extruded layer of Halogen-Free Elastomer (HFE) and comply to SHFZ. Cable design in accordance with IEC 60228, IEC 60092.</p> <p>1.Outer sheath colour: Red The insulated conductors (cores) shall have the following colours: - 1 core Black - 3 core Black - Brown - Grey - 3 core + Earth Black - Brown - Grey - Green / Yellow</p>			<p>QTY Considered Based on IFC Cable Schedule.</p> <p>70% Released for procurement in Rev.02</p>
11.1.1	RFOU-1 x 150	m	805	
11.1.4	RFOU-1 x 300	m	9929	
11.1.11	RFOU-3 x 120	m	4419	
11.1.12	RFOU-3 x 150	m	7560	
12	POWER AND CONTROL CABLE			
12.1	<p>0.6/1kV RFOU,Class 2,Stranded tinned annealed copper conductor,EPR insulated. Inner covering shall be made of an extruded layer of halogen-free compound (HFC) and a binder tape applied over it. Armour of Braided tinned annealed copper wire with binding tape applied over. Outer sheath shall be an extruded layer of Halogen-Free Elastomer (HFE) and comply to SHFZ. Cable design in accordance with IEC 60228 and IEC 60092.</p> <p>1.Outer sheath colour- BLACK 2.Power and control cables - 1 core Black - 2 core Black - Brown (for IT applications without Neutral) - 2 core + Earth Black - Brown - Green / Yellow - 2 core Brown - Blue (for TN-S applications using Neutral) - 2 core + Earth Brown - Blue - Green / Yellow (for TN-S applications using Neutral) - 3 core Black - Brown - Grey (for 3-phase applications without Neutral) - 3 core + Earth Black - Brown - Grey- Green / Yellow (for 3-phase applications without Neutral) - 4 core Black - Brown - Grey - Blue (for 3-phase applications using Neutral) - 4 core + Earth Black - Brown - Grey - Blue - Green / Yellow (for 3-phase applications using Neutral) - Multicore Black numbers on white base • Low voltage VFD cables - 3 cores + 3 E Black - Brown - Grey + 3 x Green / Yellow earth cores • Low voltage DALI lighting cables - 5 core Unarmoured: L1 (Black) / L2 (Brown) / Earth (Green / Yellow) / DALI+ (Red) / DALI- (White) - 4 core Armoured: L1 (Black) / L2 (Brown) / DALI+ (Red) / DALI- (White)</p>			<p>QTY Considered Based on IFC Cable Schedule.</p> <p>70% Released for procurement in Rev.02</p>
12.1.1	RFOU-2 x 1.5	m	17693	
12.1.2	RFOU-2 x 2.5	m	40170	
12.1.3	RFOU-2 x 4	m	2232	
12.1.4	RFOU-2 x 6	m	713	
12.1.5	RFOU-2 x 10	m	2140	
12.1.6	RFOU-2 x 16	m	3602	
12.1.7	RFOU-2 x 25	m	771	
12.1.13	RFOU-2 x 150	m	341	
12.1.15	RFOU-3 x 2.5	m	10328	
12.1.16	RFOU-3 x 4	m	1882	
12.1.17	RFOU-3 x 6	m	3942	
12.1.18	RFOU-3 x 10	m	5701	
12.1.19	RFOU-3 x 16	m	4316	
12.1.20	RFOU-3 x 25	m	6379	
12.1.21	RFOU-3 x 35	m	3520	
12.1.22	RFOU-3 x 50	m	1445	
12.1.23	RFOU-3 x 70	m	347	
12.1.24	RFOU-3 x 95	m	3575	
12.1.25	RFOU-3 x 120	m	2880	
12.1.26	RFOU-3 x 150	m	8371	
12.1.30	RFOU-4 x 6	m	2045	
12.1.31	RFOU-4 x 10	m	3202	
12.1.37	RFOU-4 x 95	m	558	
12.1.38	RFOU-4 x 120	m	285	
12.1.39	RFOU-4 x 150	m	646	
12.1.49	RFOU-2C+E x 2.5	m	375	
12.1.50	RFOU-2C+E x 4	m	525	
12.1.51	RFOU-2C+E x 6	m	375	
12.1.52	RFOU-2C+E x 10	m	1172	
12.1.53	RFOU-2C+E x 16	m	320	
21.1.67	RFOU-1 x 25	m	1021	
21.1.68	RFOU-7 x 2.5	m	2060	
21.1.69	RFOU-12 x 2.5	m	252	
21.1.75	RFOU (VFD)-3C+3E X 150	m	1235	

TITLE: ELECTRICAL CABLES MTO SUMMARY (Integration)				
ITEM No.	BRIEF DESCRIPTION (Shall be updated based on selected supplier data)	UNIT	IFU-2 INTEGRATION MTO TOTAL QUANTITY (With Spare)	Remarks
12.2	<p>0.6/1kV BFOU Class 2 Stranded tinned annealed copper conductor. The fire resisting layer shall be Mica/glass tape. A suitable tape may be applied on the fire-resisting layer. EPR insulated, Inner covering shall be made of an extruded layer of halogen-free compound (HFC) and a binder tape applied over it. Armour of Braided tinned annealed copper wire with binding tape applied over. Outer sheath shall be an extruded layer of Halogen-Free Elastomer (HFE) and comply to SHF2. Cable design in accordance with IEC 60228, IEC 60331 and IEC 60092.</p> <p>1. Outer sheath colour- BLACK</p> <p>2. Power and control cables</p> <ul style="list-style-type: none"> - 1 core Black - 2 core Black - Brown (for IT applications without Neutral) - 2 core + Earth Black - Brown - Green / Yellow - 2 core Brown - Blue (for TN-S applications using Neutral) - 2 core + Earth Brown - Blue - Green / Yellow (for TN-S applications using Neutral) - 3 core Black - Brown - Grey (for 3-phase applications without Neutral) - 3 core + Earth Black - Brown - Grey - Green / Yellow (for 3-phase applications without Neutral) - 4 core Black - Brown - Grey - Blue (for 3-phase applications without using Neutral) - 4 core + Earth Black - Brown - Grey - Blue - Green / Yellow (for 3-phase applications using Neutral) <p>- Multicore Black numbers on white base</p> <ul style="list-style-type: none"> • Low voltage VFD cables - 3 cores + 3 E Black - Brown - Grey + 3 x Green / Yellow earth cores • Low voltage DALI lighting cables - 5 core Unarmoured: L1 (Black) / L2 (Brown) / Earth (Green / Yellow) / DALI+ (Red) / DALI- (White) - 4 core Armoured: L1 (Black) / L2 (Brown) / DALI+ (Red) / DALI- (White) 			<p>QTY Considered Based on IFC Cable Schedule.</p> <p>70% Released for procurement in Rev.02</p>
12.2.2	BFOU-2 x 2.5	m	6853	
12.2.4	BFOU-2 x 6	m	702	
12.2.5	BFOU-2 x 10	m	6484	
12.2.17	BFOU-3 x 95	m	896	
12.2.65	BFOU (DALI)-2C X 4 + 2C X 1.5	m	3721	
13	GROUNDING CABLE			<p>Cable Length Considered based on IFC Earthing layout BOQ. For each earthing connection 0.5 meter cable length considered, only for Each RIO panel earthing connection 1 Meter earthing cable length considered.</p>
	<p>0.6/1 kV Grade UX, Class 2, Stranded circular tinned annealed copper conductor. The insulation shall consist of an extruded layer of Ethylene Propylene Rubber (EPR) or thermoset compound (SHF2). Cable design in accordance with IEC 60228, IEC 60331 and IEC 60092.</p> <p>The Outer sheath shall be Green Base color with Yellow Strips in color.</p>			<p>Mentioned quantity is estimated only however yard to consider in case of any Top up requirement.</p>
13.5	E-1 x 16	m	18	
13.6	E-1 x 25	m	830	
13.10	E-1 x 95	m	12	

TITLE: INSTRUMENT CABLES MTO SUMMARY (INTEGRATION)				
SR. NO.	BRIEF DESCRIPTION (Shall be updated based on selected supplier data)	UNIT	INTEGRATION MTO TOTAL QUANTITY (With Spare)	REMARKS
INSTRUMENTATION CABLE				
5	250 V, Flame Retardant, One or Multi Pair/Triad Instrument Cable, EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Individual screen). The outer sheath shall be Grey in color. (Non-IS)			Quantity from cable schedule (IFC revision)
	RFOU (i) - 8P X 1.5 mm2	m	326	
	RFOU (i) - 12P X 1.5 mm2	m	326	
6	250 V, Flame Retardant, One or Multi Pair/Triad Instrument Cable, EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Collective screen). The outer sheath shall be Grey in color. (Non-IS)			Quantity from cable schedule (IFC revision)
	RFOU (c) - 6P X 2.5 mm2	m	6558	
	RFOU (c) - 8P X 1.5 mm2	m	326	
	RFOU (c) - 12P X 1.5 mm2	m	1302	
	RFOU (c) - 12P X 2.5 mm2	m	1959	
7	250 V, Flame Retardant, One or Multi Pair/Triad Instrument Cable, EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Individual screen). The outer sheath shall be Blue in color. (IS)			Quantity from cable schedule (IFC revision)
	RFOU (i) - 4P X 1.5 mm2	m	1596	
	RFOU (i) - 8P X 1.5 mm2	m	8857	
	RFOU (i) - 12P X 1.5 mm2	m	13430	
	RFOU (i) - 8T X 1.5 mm2	m	2200	
8	250 V, Flame Retardant, One or Multi Pair/Triad Instrument Cable, EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Collective Screen). The outer sheath shall be Blue in color. (IS)			Quantity from cable schedule (IFC revision)
	RFOU (c) - 2P X 1.5 mm2	m	4888	
	RFOU (c) - 4P X 1.5 mm2	m	3282	
	RFOU (c) - 8P X 1.5 mm2	m	8400	
	RFOU (c) - 12P X 1.5 mm2	m	1045	
9	250 V, Fire Resistant, One or Multi Pair/Triad Instrument Cable, Mica Tape + EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Individual screen). The outer sheath shall be Grey in color. (Non-IS)			Quantity from cable schedule (IFC revision)
	BFOU (i) - 8T X 1.5 mm2	m	16265	
	BFOU (i) - 8T X 2.5 mm2	m	2279	
	BFOU (i) - 12T X 1.5 mm2	m	3492	
	BFOU (i) - 12T X 2.5 mm2	m	3481	
10	250 V, Fire Resistant, One or Multi Pair/Triad Instrument Cable, Mica Tape + EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Collective Screen). The outer sheath shall be Grey in color. (Non-IS)			Quantity from cable schedule (IFC revision)
	BFOU (c) - 4P X 1.5 mm2	m	678	
	BFOU (c) - 6P X 2.5 mm2	m	1691	
	BFOU (c) - 8P X 1.5 mm2	m	3733	
	BFOU (c) - 12P X 1.5 mm2	m	1985	
	BFOU (c) - 12P X 2.5 mm2	m	1733	
11	250 V, Fire Resistant, One or Multi Pair/Triad Instrument Cable, Mica Tape + EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Individual screen). The outer sheath shall be Blue in color. (IS)			Quantity from cable schedule (IFC revision)
	BFOU (i) - 1P X 1.5 mm2	m	5975	
	BFOU (i) - 4P X 1.5 mm2	m	2536	
	BFOU (i) - 8P X 1.5 mm2	m	4489	
	BFOU (i) - 12P X 1.5 mm2	m	216	
	BFOU (i) - 8T X 1.5 mm2	m	19541	
	BFOU (i) - 12T X 1.5 mm2	m	2888	
12	250 V, Fire Resistant, One or Multi Pair/Triad Instrument Cable, Mica Tape + EPR-insulated, HFC inner covering, Tinned Annealed Copper Wire Braid Armoured, HFE Sheathed Cable (Collective Screen). The outer sheath shall be Blue in color. (IS)			Quantity from cable schedule (IFC revision)
	BFOU (c) - 2P X 1.5 mm2	m	1360	
FIBRE OPTIC CABLE				

TITLE: INSTRUMENT CABLES MTO SUMMARY (INTEGRATION)				
SR. NO.	BRIEF DESCRIPTION (Shall be updated based on selected supplier data)	UNIT	INTEGRATION MTO TOTAL QUANTITY (With Spare)	REMARKS
14	FIRE RESISTANT METALLIC ARMoured MULTILOOSE LSZH CABLE Cable Type: Single mode, Mode Field Diameter @1310 nm : 9.1 (+/-0.4) µm Mode Field Diameter @1550 nm : 10.2 (+/-0.5) µm Inner Sheath : Halogen free SHF1 Outer Sheath : Halogen free SHF1 - UV Resistant, Colour : Orange. Fire Protection : Mica Tape. Jacket: Low smoke zero halogen. Armour: Tinned copper wire braid (TCWB) Sheath: Low smoke zero halogen. Comply to specification: IEC 60331-25, IEC 60332-3-22, IEC 60794-1-21, IEC 60754-1 ; IEC 60754-2, IEC 61034-1 ; IEC 61034-2			
	8C - SINGLE MODE	m	10831	
RS-485	4P X 20 AWG	m	1240	

TITLE: TELECOM CABLES MTO SUMMARY (Integration)				
ITEM No.	BRIEF DESCRIPTION (Shall be updated based on selected supplier data)	UNIT	IFU-2 TOPSIDE INTEGRATION MTO TOTAL QUANTITY (With Spare)	REMARKS
3	TELECOM POWER CABLES			
3.1	0.6/1kV BFOU Class 2, Stranded tinned annealed copper conductor. The fire resisting layer shall be Mica/glass tape applied by lapping helically on the conductor. A suitable tape may be applied on the fire-resisting layer. EPR insulated, Inner covering shall be made of an extruded layer of halogen-free compound (HFC) and a binder tape applied over it. Armour of Braided tinned annealed copper wire with binding tape applied over. Outer sheath shall be an extruded layer of Halogen-Free Elastomer (HFE) and comply to SHF2. Cable design in accordance with IEC 60228, IEC 60331 and IEC 60092.			QTY Considered Based on IFC Cable Schedule. 70% Released for procurement in Rev.02
	BFOU-2 x 2.5	m	1632	
	BFOU-4 x 2.5	m	14308	
3.2	TELECOM SIGNAL CABLE			
	250V grade BFOU(i), Class 2, stranded tinned annealed copper conductor. The fire resisting layer shall be Mica/glass tape applied by lapping helically on the conductor. A suitable tape may be applied on the fire-resisting layer. The insulation shall consist of an extruded layer of Ethylene Propylene Rubber (EPR). The required numbers of insulated cores shall be twisted together with suitable lay length to form a pair/triad. A suitable tape may be applied on the pair/triad twisting. The individual screen shall consist of copper or aluminium backed polyester tape and a tinned copper drain wire. Each pair/triad is wrapped with polyester tape to prevent electrical contact with adjacent pairs/triads. The collective screen shall consist of copper or aluminium backed polyester tape and a tinned copper drain wire. A suitable tape may be applied on the collective screen. The armour shall be made of braided tinned annealed copper wires. Tapes shall be applied over the armour. Outer sheath shall be an extruded layer of Halogen-Free Elastomer (HFE) and comply to SHF2. The outer sheath shall be Grey in color. Type "BFOU(i)". Cable design in accordance with IEC 60228, IEC 60331 and IEC 60092.			QTY Considered Based on IFC Cable Schedule. 70% Released for procurement in Rev.02
	BFOU(i)-1P x 1.5	m	5487	
	BFOU(i)-4P x 1.5	m	419	
	BFOU(i)-8P x 1.5	m	5548	
	BFOU(i)-12P x 1.5	m	112	
3.2.1	RADIAFLEX Coaxial Cable - Flame Retardant - Armoured - 1/2" Radiating - 50 ohm			
	RLK12-50JFNA	m	289	
3.2.1	Coaxial Cable - Flame Retardant - Unarmoured - 1/2" - 50 ohm			
	LCF12-50JFN	m	132	