

Company Directive

STANDARD TECHNIQUE: SD8B/3 (Part 2)

Relating to 11kV Underground Cable Ratings

Policy Summary

This document contains 11kV cable ratings of the various types of 11kV cables used within Western Power Distribution South West and South Wales areas. It assumes that the cables will be subjected to the cyclic load as given by the load curve shown in figure one. If other load curves are required contact the Company Cable Engineer.

This Standard Technique should be used when designing any 11kV electricity distribution network that has underground cables in it.

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Approved by

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Policy Manager

Date:

30-03-09

1.0 INTRODUCTION

This Standard Technique replaces Standard Technique ST: SD 8B/2.

This Part 2 document of ST: SD 8B sets out the all the WPD, 11kV underground cable Sustained ratings, Cyclic ratings and Distribution ratings for winter, spring, summer and autumn which are to be applied. These ratings are based on Crater for MV Cables.

2.0 UNDERGROUND CABLES

The main factors governing the rating of underground cables are: -

Maximum depth of lay;

Soil thermal resistivity T_r (g);

Ground ambient temperature ($^{\circ}\text{C}$);

Air ambient temperature ($^{\circ}\text{C}$);

Cyclic loading conditions;

Maximum permissible conductor temperature;

Proximity to other cables;

Whether the cable is laid direct in the ground, in ducts or in air.

Duct dimensions

3.0 CRITERIA

3.1 General criteria for 11kV cables (applies to Paper, EPR and XLPE cables)

A winter soil resistivity of 0.9°Cm/W and a summer soil resistivity of 1.2°Cm/W are considered realistic for the South West and South Wales, although the possibility of localised higher values may need to be taken into account. To control the thermal resistivity of the surrounding medium then the best example would be to use cement bound sand (CBS) backfill for a cable route, but this is expensive. Generally crushed Limestone dust or crushed Granite dust 3mm to dust is suitable as this gives a T_r of 1.2°Cm/W .

Ground ambient temperatures across the South West and South Wales vary between 7°C in the winter and 15°C in the summer. These values apply in most locations, but winter ground temperatures in the city centres such as Bristol, Cardiff, Exeter, Plymouth and Swansea will be about 2°C higher.

3.2 The current ratings quoted in this document are maximum values and based on balanced loads.

- 3.3 The current ratings quoted apply to cables supplying loads, during the requisite season.
- 3.4 The current ratings specified are to be adjusted where the conditions are known to vary from those quoted in this instruction i.e. high summer loads or grouping.
- 3.5 The maximum conductor temperature for paper cable is 65°C. The maximum conductor temperature for EPR and XLPE cables is 90°C.
- 3.6 When two or more cables or trefoil groups are laid in the same trench then a derating factor needs to be applied to both circuits. The amount of derating is dependant upon the spacing of the circuits. All spacing distances quoted in this document are **centre-to-centre** spacing's of the cables or trefoil groups.
- 3.7 Only 11kV Ratings are now included in this document.
- 3.8 The ratings are detailed as **Sustained** - Winter, Spring, Summer and Autumn; **Cyclic** - Winter, Spring, Summer and Autumn; **Distribution** - Winter, Spring, Summer and Autumn; for each of the cable types included in this document.
- 3.9 Each cable type for which ratings have been generated the typical assumed installation conditions are given in the formation shown below: -

Depth of lay 0.6m;

Soil resistivity of 0.9°Cm/W;

Ground ambient temperature of 10°C;

Maximum conductor temperature of 65°C for 11kV for 3 core paper cables and 70°C for 11kV single core paper cables. All polymeric cables e.g. EPR and XLPE have a maximum conductor temperature of 90°C.

No allowance made for grouping of cable circuits.

4.0 DEFINITIONS

All 11kV EPR triplex circuits, for the purpose of this document, have been assumed to be three single-core polymeric cables laid touching, throughout their length, in trefoil formation. That the copper wire screens or the lead sheaths of the cables have been solidly bonded together at each straight joint position in addition the screens are solidly bonded together and earthed at both ends of the circuit.

It should be noted that when triplex or single core cable, which has been laid in trefoil, a maximum of 12% of the TOTAL ROUTE LENGTH, can be laid in flat space configuration without affecting the trefoil rating. If more than 12% of the Total Route Length is laid in flat space configuration then high circulating currents will flow in the copper wire screens or the lead sheath of the single core cables. This must be avoided. If the 12% cannot be achieved then contact the Company Cable Engineer at Avonbank.

4.1 Sustained, Continuous or Steady-State rating

The sustained rating is the maximum current that can be carried, in defined conditions, without the assumed maximum conductor temperature being exceeded.

4.2 Cyclic rating

A cyclic rating is the maximum current that maybe carried during the prolonged application of a succession of identical 24-hour load cycles, without the assumed maximum conductor temperature being exceeded.

4.3 Distribution rating

Distribution ratings are ratings calculated for stated conditions commonly occurring on distribution systems. The tabulated ratings given are 3 to 5 day limited time cyclic ratings.

The basis of the Distribution ratings is given below: -

Quantity and value assumed in calculating Distribution Ratings	Conditions for which valid.
Assumed maximum conductor temperature	90°C
Depth of Laying 0.8m	Nominal laying depth, direct or in ducts.
Soil Ambient Temp. 10°C	Winter peak loads in UK.
Soil Thermal resistivity for cables laid direct or in ducts $g = 0.9^{\circ}\text{C.m/W}$	(a) Summer load not greater than 75% of winter load. (b) Either special measures taken for difficult soils OR increased risk accepted.
Soil Thermal Diffusivity needed for transient conditions $0.5 \times 10^{-6} \text{ m}^2/\text{s}$	$G = 0.9^{\circ}\text{C.m/W}$
Ambient conditions Cables in Air 10°C Solar gain neglected	(a) Maximum load in winter. (b) Heating from adjacent equipment not excessive. (c) Shielded from the sun.
Other Heat Sources None	No allowance made for grouping.
Cyclic Loading For cables laid direct or in ducts 24 hr load cycle.	Daily cyclic load typical domestic/commercial type.
Limited-time Rating Normal conditions restored after 3 – 5 days.	Two-feeder open-ring operation.

4.4 **Utilisation factor**

The percentage of a cable's distribution rating which is not exceeded during its normal operational condition. Distribution ratings are based on an initial cable utilisation of 50%; if a circuit has a higher utilisation factor such as 75% then the Distribution rating must be reduced by 2.5%.

4.5 **Load Factor**

The ratio of the number of units supplied during a given period, to the number of units that would be supplied, had the maximum demand been maintained throughout that period. This is usually expressed as a percentage.

4.6 **Soil thermal conductivity**

The soil thermal conductivity is the thermal transmission in unit time through unit area of homogeneous soil of unit thickness, when unit difference of temperature is established between its surfaces.

4.7 **Soil thermal resistivity**

The ratings given are calculated for a damp thermal resistivity, which is suitable for rating cables for winter-peak loads.

4.8 **Ground ambient temperature**

Where a cable circuit carries a sustained load and does not have a seasonal variation it should be rated for the maximum summer value of ground temperature.

4.9 **Ducts**

A duct up to 15m in length can be used without derating the cable. Two or more duct lengths can be used on a section, provided that there is no more than 30m of duct in a particular 250m cable section and that there is a minimum of 10m separation between each duct length. See the example given below.

Example of two 15m-duct lengths in a 250m-cable section.

The correct duct rating shall be used if 15m or more of continuous duct is installed on a particular 250m-cable section. This rating is dependant upon the type of ducting used, for this reason the ratings given in the tables contain values for both smooth walled "PVC" and "Rigiduct" (Rigiduct is a twin walled duct) type ducting.

The rating of the cable section can be restored if the ducts are bentonited after the cables have been installed. To ensure the thermal equivalence to the direct buried parts of the route, the ducts shall be completely filled with a bentonite-sand-cement mixture.

The filling medium shall be prepared by adding 20 parts of sand and 8 parts of cements, by weight, to 100 parts of a 10:1 water/bentonite mixture.

Note: - Provided the bentonite is sealed into the duct with duct seals, and then the bentonite forms a gel, which is stabilized by the cement, and the addition of sand increases the load-bearing properties of the mixture. Should it be necessary to remove this mixture, it may be flushed out of the ducts by using high-pressure water jets.

Ducts, which are filled with a bentonite mixture, shall be installed wherever possible in a concrete surround but if not, any joints in the duct run must be effectively sealed. At the duct ends, the gap around the cable must be effectively sealed to prevent migration of the bentonite mixture and preserve its moisture content under service conditions.

In general duct lengths of up to 100m can be filled where a standard 150mm nominal bore duct is installed.

4.10 Cables exposed to the sun

To reduce the effect of solar radiation it is recommended that cables should be shielded from direct rays of the sun without restriction of ventilation.

4.11 Effects of grouping of cables

No allowance has been made for grouping in the ratings listed in the tables. Use the correction factors given in Table 1 for various grouping arrangements.

When two or more circuits of the same voltage are laid in close proximity the ratings of the cables must be reduced by multiply the group-rating factor given in Table 1 with the relevant cable rating selected from this document. It should be noted that if thermally independence of both the circuits is required, then the circuits need a centre-to-centre spacing of 2.5m.

All spacing quoted in Table 1, are a centre-to-centre spacing for the relevant circuits.

4.12 Loading Conditions

All the ratings listed in this document are calculated for a particular typical domestic/commercial daily load curve, having a loss load factor of 0.5. See Figure 1 for the load curve.

Ratings given for cables installed in air and clipped direct to a wall are the steady-state ratings. Cables installed in this manner do NOT have a Cyclic or Distribution rating just their sustained or steady state rating.

5.0 FURTHER GUIDANCE

If required, further guidance should be sought from the Company Cable Engineer, Policy Section, Avonbank, Feeder Road, Bristol where necessary.

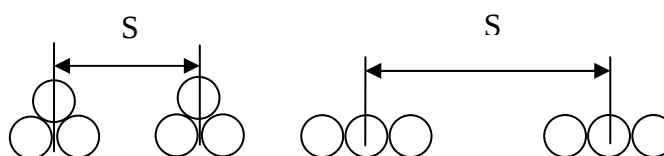
5.1 INDEX

TABLE	DESCRIPTION
Table 1	Group Derating Factors for Circuits.
Figure 1	Typical Load Curve G.
A1 win	11kV 3 Core PICAS (Aluminium & Copper) - WINTER – Sustained, Cyclic & Distribution Current Ratings.
A2 spr	11kV 3 Core PICAS (Aluminium & Copper) - SPRING - Sustained, Cyclic & Distribution Current Ratings.
A3 sum	11kV 3 Core PICAS (Aluminium & Copper) - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
A4 aut	11kV 3 Core PICAS (Aluminium & Copper) - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
B1 win	11kV 3 Core PISAS (Aluminium & Copper) - WINTER – Sustained, Cyclic & Distribution Current Ratings.
B2 spr	11kV 3 Core PISAS (Aluminium & Copper) - SPRING - Sustained, Cyclic & Distribution Current Ratings.
B3 sum	11kV 3 Core PISAS (Aluminium & Copper) - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
B4 aut	11kV 3 Core PISAS (Aluminium & Copper) - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
C1 win	11kV 3 Core PILC (Aluminium & Copper) - WINTER – Sustained, Cyclic & Distribution Current Ratings.
C2spr	11kV 3 Core PILC (Aluminium & Copper) - SPRING - Sustained, Cyclic & Distribution Current Ratings.
C3 sum	11kV 3 Core PILC (Aluminium & Copper) - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
C4 aut	11kV 3 Core PILC (Aluminium & Copper) - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
D1 win	11kV 3 Core PILC (Aluminium) - WINTER – Sustained, Cyclic & Distribution Current Ratings.
D2 spr	11kV 3 Core PILC (Aluminium) - SPRING - Sustained, Cyclic & Distribution Current Ratings.
D3 sum	11kV 3 Core PILC (Aluminium) - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
D4 aut	11kV 3 Core PILC (Aluminium) - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
E1 win	11kV Single Core PILC Cables - WINTER – Sustained, Cyclic & Distribution Current Ratings.
E2 spr	11kV Single Core PILC Cables - SPRING - Sustained, Cyclic and Distribution Current Ratings.
E3 sum	11kV Single Core PILC Cables - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
E4 aut	11kV Single Core PILC Cables - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
F1 win	11kV Three core XLPE Cu. Screen and MDPE oversheath - WINTER – Sustained, Cyclic & Distribution Current Ratings.
F2 spr	11kV Three core XLPE Cu. Screen and MDPE oversheath - SPRING - Sustained, Cyclic & Distribution Current Ratings.
F3 sum	11kV Three core XLPE Cu. Screen and MDPE oversheath - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
F4 aut	11kV Three core XLPE Cu. Screen and MDPE oversheath - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.
G1 win	11kV Three core XLPE, SWA and MDPE oversheath - WINTER – Sustained, Cyclic & Distribution Current Ratings.
G2 spr	11kV Three core XLPE, SWA and MDPE oversheath - SPRING - Sustained, Cyclic & Distribution Current Ratings.
G3 sum	11kV Three core XLPE, SWA and MDPE oversheath - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
G4 aut	11kV Three core XLPE, SWA and MDPE oversheath - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.

TABLE	DESCRIPTION
H1 win	11kV Single core or Triplex EPR Cu. Screen and MDPE oversheath - WINTER – Sustained, Cyclic & Distribution Current Ratings.
H2 spr	11kV Single core or Triplex EPR Cu. Screen and MDPE oversheath - SPRING - Sustained, Cyclic & Distribution Current Ratings.
H3 sum	11kV Single core or Triplex EPR Cu. Screen and MDPE oversheath - SUMMER - Sustained, Cyclic & Distribution Current Ratings.
H4 aut	11kV Single core or Triplex EPR Cu. Screen and MDPE oversheath - AUTUMN - Sustained, Cyclic & Distribution Current Ratings.

TABLE 1

GROUP DERATING FACTORS FOR CIRCUITS OF THREE SINGLE-CORE CABLES, IN TREFOIL or LAID FLAT, HORIZONTAL FORMATION, LAID DIRECT.



Type of Cable	No. of Circuits	Spacing of Circuits – Metre (S).					
		Touching		0.15	0.20	0.3	0.45
		Trefoil	Laid Flat				
11kV Cables	2	0.78	0.80	0.81	0.82	0.85	0.88
	3	0.66	0.69	0.71	0.73	0.76	0.80
	4	0.60	0.63	0.65	0.67	0.72	0.76
	5	0.55	0.58	0.61	0.63	0.68	0.73

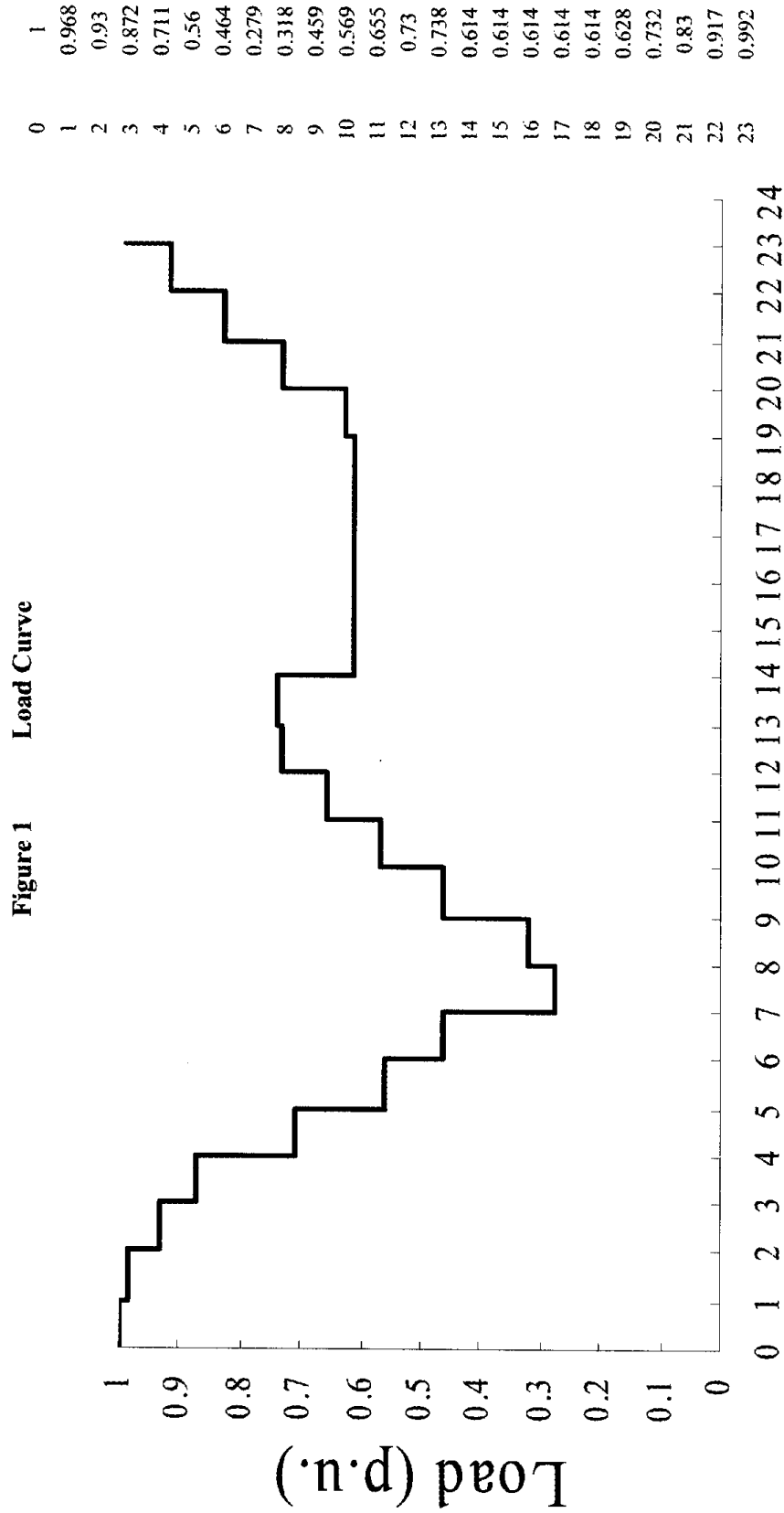


Figure 1

TABLE A1 win

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	206	172	165	212
185mm ² Al.	303	255	258	324
300mm ² Al.	393	335	317	432
<u>Copper conductors</u>				
185mm ² Cu	384	317	302	411
300mm ² Cu	494	411	390	544
400mm ² Cu	594	493	464	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A1 win

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	226	183	174	212
185mm ² Al.	338	274	258	324
300mm ² Al.	442	362	339	432
<u>Copper conductors</u>				
185mm ² Cu	429	341	322	411
300mm ² Cu	556	444	417	544
400mm ² Cu	680	536	499	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A1 win

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	246	191	180	212
185mm ² Al.	371	294	272	324
300mm ² Al.	488	395	362	432
<u>Copper conductors</u>				
185mm ² Cu	471	366	340	411
300mm ² Cu	615	485	447	544
400mm ² Cu	747	585	535	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV Paper Cables.	

TABLE A2 spr

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	194	166	159	212
185mm ² Al.	284	245	233	324
300mm ² Al.	368	320	304	432
<u>Copper conductors</u>				
185mm ² Cu	360	304	290	411
300mm ² Cu	462	392	373	544
400mm ² Cu	553	470	445	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A2 spr

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	215	178	169	212
185mm ² Al.	320	266	251	324
300mm ² Al.	418	350	329	432
<u>Copper conductors</u>				
185mm ² Cu	406	329	312	411
300mm ² Cu	526	428	404	544
400mm ² Cu	641	518	483	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A2 spr

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	235	186	175	212
185mm ² Al.	353	286	265	324
300mm ² Al.	464	384	352	432
<u>Copper conductors</u>				
185mm ² Cu	449	356	331	411
300mm ² Cu	584	471	434	544
400mm ² Cu	709	569	520	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV Paper Cables.	

TABLE A3 sum

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	181	158	152	212
185mm ² Al.	264	233	222	324
300mm ² Al.	342	304	289	432
<u>Copper conductors</u>				
185mm ² Cu	335	288	276	411
300mm ² Cu	430	371	354	544
400mm ² Cu	513	445	422	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A3 sum

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	203	171	163	212
185mm ² Al.	300	255	241	324
300mm ² Al.	393	335	315	432
<u>Copper conductors</u>				
185mm ² Cu	382	315	299	411
300mm ² Cu	494	409	386	544
400mm ² Cu	600	496	464	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A3 sum

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	222	180	169	212
185mm ² Al.	333	276	255	324
300mm ² Al.	437	370	339	432
<u>Copper conductors</u>				
185mm ² Cu	424	343	319	411
300mm ² Cu	551	454	418	544
400mm ² Cu	668	548	500	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV Paper Cables.	

TABLE A4 aut

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	191	165	158	212
185mm ² Al.	280	243	232	324
300mm ² Al.	363	318	302	432
<u>Copper conductors</u>				
185mm ² Cu	355	301	288	411
300mm ² Cu	455	388	370	544
400mm ² Cu	544	466	441	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A4 aut

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	213	177	169	212
185mm ² Al.	316	264	250	324
300mm ² Al.	413	348	327	432
<u>Copper conductors</u>				
185mm ² Cu	402	328	311	411
300mm ² Cu	520	426	401	544
400mm ² Cu	633	515	481	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV Paper Cables.	

TABLE A4 aut

**11kV CABLES (PICAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	233	186	174	212
185mm ² Al.	349	286	264	324
300mm ² Al.	459	383	351	432
<u>Copper conductors</u>				
185mm ² Cu	445	355	330	411
300mm ² Cu	578	470	433	544
400mm ² Cu	702	567	518	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV Paper Cables.	

TABLE B1 win

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	218	177	170	212
185mm ² Al.	303	255	258	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B1 win

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	239	188	178	212
185mm ² Al.	338	274	258	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B1 win

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	255	196	180	212
185mm ² Al.	371	294	272	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV paper cables.	

TABLE B2 spr

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	194	166	159	212
185mm ² Al.	284	245	233	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B2 spr

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	215	178	169	212
185mm ² Al.	320	266	251	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B2 spr

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	235	186	175	212
185mm ² Al.	353	286	265	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	181	158	152	212
185mm ² Al.	264	233	222	324
300mm ² Al.	342	304	289	432
<u>Copper conductors</u>				
185mm ² Cu	335	288	276	411
300mm ² Cu	430	371	354	544
400mm ² Cu	513	445	422	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B3 sum

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	203	171	163	212
185mm ² Al.	300	255	241	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B3 sum

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Summer **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	222	180	169	212
185mm ² Al.	333	276	255	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV paper cables.	

TABLE B4 aut

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	191	165	158	212
185mm ² Al.	280	243	232	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B4 aut

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	213	177	169	212
185mm ² Al.	316	264	250	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE B4 aut

**11kV CABLES (PISAS) 3 CORE BELTED OIL IMPREGNATED PAPER
INSULATED CORRUGATED ALUMINIUM SHEATH**

Autumn **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Aluminium conductors</u>		PVC	Rigiduct	
95mm ² Al.	233	186	174	212
185mm ² Al.	349	286	264	324

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Utilization factor	50%
Ratings based on Crater for MV paper cables.	

TABLE C1 win

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Winter *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95 mm ² Cu	279	231	221	292
185 mm ² Cu	409	337	320	443
300 mm ² Cu	534	440	415	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu	94	79	77	93
0.04in ² Cu	129	109	105	129
0.06in ² Cu	163	137	132	164
0.1in ² Cu	218	184	176	224
0.15in ² Cu	272	228	218	283
0.2in ² Cu	323	270	257	341
0.25in ² Cu	367	307	292	392
0.3in ² Cu	412	344	327	446
0.4in ² Cu	485	404	383	533
0.5in ² Cu	539	449	424	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C1 win

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Winter *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	310	247	234	292
185mm ² Cu.	461	363	341	443
300mm ² Cu.	610	478	446	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	101	83	80	93
0.04in ² Cu.	139	114	110	129
0.06in ² Cu.	177	145	138	164
0.1in ² Cu.	239	195	186	224
0.15in ² Cu.	299	243	231	283
0.2in ² Cu.	357	288	273	341
0.25in ² Cu.	409	329	310	392
0.3in ² Cu.	461	370	348	446
0.4in ² Cu.	546	436	409	533
0.5in ² Cu.	611	487	455	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C1 win

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	332	210	244	292
185mm ² Cu.	500	389	360	443
300mm ² Cu.	668	519	476	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	106	86	82	93
0.04in ² Cu.	147	118	112	129
0.06in ² Cu.	187	151	142	164
0.1in ² Cu.	254	205	193	224
0.15in ² Cu.	320	257	241	283
0.2in ² Cu.	384	308	287	341
0.25in ² Cu.	441	354	329	392
0.3in ² Cu.	500	401	371	446
0.4in ² Cu.	595	477	439	533
0.5in ² Cu.	670	537	491	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Utilization Factor	50%
Max. Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Spring *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95 mm ² Cu	262	222	213	292
185 mm ² Cu	382	323	308	443
300 mm ² Cu	497	421	398	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu	89	77	74	93
0.04in ² Cu	122	105	101	129
0.06in ² Cu	154	132	127	164
0.1in ² Cu	206	177	170	224
0.15in ² Cu	256	220	211	283
0.2in ² Cu	303	259	248	341
0.25in ² Cu	344	295	281	392
0.3in ² Cu	386	330	315	446
0.4in ² Cu	453	387	368	533
0.5in ² Cu	503	430	407	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	294	239	227	292
185mm ² Cu.	435	352	331	443
300mm ² Cu.	574	464	432	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	96	81	78	93
0.04in ² Cu.	133	111	107	129
0.06in ² Cu.	169	141	135	164
0.1in ² Cu.	227	189	181	224
0.15in ² Cu.	284	236	224	283
0.2in ² Cu.	339	280	265	341
0.25in ² Cu.	387	319	302	392
0.3in ² Cu.	437	358	338	446
0.4in ² Cu.	516	422	397	533
0.5in ² Cu.	578	471	441	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	317	253	237	292
185mm ² Cu.	476	378	350	443
300mm ² Cu.	635	505	463	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	102	84	80	93
0.04in ² Cu.	141	116	110	129
0.06in ² Cu.	180	147	139	164
0.1in ² Cu.	244	200	188	224
0.15in ² Cu.	306	251	236	283
0.2in ² Cu.	368	301	281	341
0.25in ² Cu.	421	345	321	392
0.3in ² Cu.	477	391	361	446
0.4in ² Cu.	567	465	427	533
0.5in ² Cu.	637	523	478	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Utilization Factor	50%
Max. Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C3 sum

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95 mm ² Cu	244	212	203	292
185 mm ² Cu	355	307	293	443
300 mm ² Cu	460	399	379	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu	83	73	71	93
0.04in ² Cu	114	100	97	129
0.06in ² Cu	144	126	122	164
0.1in ² Cu	193	169	163	224
0.15in ² Cu	239	209	201	283
0.2in ² Cu	283	247	237	341
0.25in ² Cu	321	280	268	392
0.3in ² Cu	360	314	300	446
0.4in ² Cu	421	367	350	533
0.5in ² Cu	467	407	387	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C3 sum

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	276	230	219	292
185mm ² Cu.	407	337	318	443
300mm ² Cu.	537	442	415	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	91	78	75	93
0.04in ² Cu.	126	107	103	129
0.06in ² Cu.	159	136	130	164
0.1in ² Cu.	214	182	174	224
0.15in ² Cu.	268	227	216	283
0.2in ² Cu.	319	269	255	341
0.25in ² Cu.	364	306	290	392
0.3in ² Cu.	410	344	325	446
0.4in ² Cu.	485	405	381	533
0.5in ² Cu.	541	451	423	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C3 sum

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Summer *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	301	245	229	292
185mm ² Cu.	449	365	338	443
300mm ² Cu.	599	487	446	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	97	82	78	93
0.04in ² Cu.	135	112	106	129
0.06in ² Cu.	171	143	135	164
0.1in ² Cu.	231	194	182	224
0.15in ² Cu.	291	243	228	283
0.2in ² Cu.	348	291	271	341
0.25in ² Cu.	399	333	309	392
0.3in ² Cu.	451	377	348	446
0.4in ² Cu.	535	448	411	533
0.5in ² Cu.	601	504	460	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Utilization Factor	50%
Max. Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C4 aut

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95 mm ² Cu	258	221	211	292
185 mm ² Cu	376	321	321	443
300 mm ² Cu	489	417	417	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu	88	76	74	93
0.04in ² Cu	120	104	101	129
0.06in ² Cu	152	131	127	164
0.1in ² Cu	203	176	169	224
0.15in ² Cu	253	218	209	283
0.2in ² Cu	299	258	246	341
0.25in ² Cu	340	293	279	392
0.3in ² Cu	381	328	312	446
0.4in ² Cu	446	384	365	533
0.5in ² Cu	496	426	404	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE C4 aut

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Autumn *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	290	238	226	292
185mm ² Cu.	429	350	330	443
300mm ² Cu.	567	460	430	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	95	81	78	93
0.04in ² Cu.	132	111	106	129
0.06in ² Cu.	167	140	134	164
0.1in ² Cu.	225	189	180	224
0.15in ² Cu.	281	235	224	283
0.2in ² Cu.	335	279	264	341
0.25in ² Cu.	383	317	300	392
0.3in ² Cu.	432	357	337	446
0.4in ² Cu.	510	420	395	533
0.5in ² Cu.	571	468	439	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured**

Autumn **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Copper conductors</u>				
95mm ² Cu.	314	253	236	292
185mm ² Cu.	471	377	349	443
300mm ² Cu.	629	503	461	600
Imperial				
<u>Copper conductors</u>				
0.0225in ² Cu.	101	84	80	93
0.04in ² Cu.	140	116	110	129
0.06in ² Cu.	179	147	139	164
0.1in ² Cu.	242	200	188	224
0.15in ² Cu.	304	251	235	283
0.2in ² Cu.	365	300	280	341
0.25in ² Cu.	418	344	320	392
0.3in ² Cu.	473	390	360	446
0.4in ² Cu.	561	463	426	533
0.5in ² Cu.	631	521	476	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Utilization Factor	50%
Max. Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D1 win

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Winter **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	217	180	171	227
185mm ² Al	320	264	250	346
300mm ² Al	422	348	329	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	73	62	59	72
0.04in ² Al	100	84	81	100
0.06in ² Al	126	106	102	127
0.1in ² Al	169	143	137	174
0.15in ² Al	211	177	170	220
0.2in ² Al	251	210	200	265
0.25in ² Al	286	240	228	306
0.3in ² Al	323	269	256	348
0.4in ² Al	381	318	302	419
0.05in ² Al	428	357	337	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D1 win

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMOURED (Cont.)**

Winter *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	241	192	182	227
185mm ² Al	360	284	267	346
300mm ² Al	482	378	353	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	78	65	62	72
0.04in ² Al	108	89	85	100
0.06in ² Al	137	112	107	127
0.1in ² Al	185	151	144	174
0.15in ² Al	232	189	179	220
0.2in ² Al	278	224	213	265
0.25in ² Al	319	256	242	306
0.3in ² Al	361	289	273	348
0.4in ² Al	429	343	322	419
0.5in ² Al	484	386	361	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	258	202	189	227
185mm ² Al	390	304	282	346
300mm ² Al	527	410	376	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	82	66	63	72
0.04in ² Al	114	91	86	100
0.06in ² Al	145	116	110	127
0.1in ² Al	197	158	148	174
0.15in ² Al	248	198	186	220
0.2in ² Al	299	238	222	265
0.25in ² Al	344	274	254	306
0.3in ² Al	391	311	288	348
0.4in ² Al	468	372	342	419
0.5in ² Al	530	422	387	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Utilization Factor	50%
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Spring *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	204	173	165	227
185mm ² Al	299	253	241	346
300mm ² Al	393	333	315	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	69	60	58	72
0.04in ² Al	95	81	78	100
0.06in ² Al	119	103	99	127
0.1in ² Al	160	137	132	174
0.15in ² Al	199	171	164	220
0.2in ² Al	236	202	193	265
0.25in ² Al	269	230	220	306
0.3in ² Al	302	259	246	348
0.4in ² Al	357	308	290	419
0.05in ² Al	399	341	324	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	228	186	177	227
185mm ² Al	340	275	259	346
300mm ² Al	454	366	342	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	75	63	61	72
0.04in ² Al	103	86	83	100
0.06in ² Al	131	109	105	127
0.1in ² Al	176	147	140	174
0.15in ² Al	221	183	174	220
0.2in ² Al	264	218	207	265
0.25in ² Al	302	249	235	306
0.3in ² Al	342	280	265	348
0.4in ² Al	406	332	313	419
0.5in ² Al	458	374	350	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D2 spr

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	246	197	184	227
185mm ² Al	372	296	274	346
300mm ² Al	501	399	366	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	79	65	62	72
0.04in ² Al	110	89	85	100
0.06in ² Al	140	113	107	127
0.1in ² Al	189	154	145	174
0.15in ² Al	238	194	182	220
0.2in ² Al	286	232	217	265
0.25in ² Al	328	267	248	306
0.3in ² Al	373	303	280	348
0.4in ² Al	445	362	334	419
0.5in ² Al	504	411	376	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Utilization Factor	50%
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Summer **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	190	164	158	227
185mm ² Al	277	240	229	346
300mm ² Al	364	316	300	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	65	57	55	72
0.04in ² Al	89	78	75	100
0.06in ² Al	112	98	95	127
0.1in ² Al	150	131	126	174
0.15in ² Al	186	163	156	220
0.2in ² Al	220	192	184	265
0.25in ² Al	250	219	209	306
0.3in ² Al	281	246	235	348
0.4in ² Al	332	289	276	419
0.05in ² Al	371	324	308	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMOURED (Cont.)**

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	214	179	170	227
185mm ² Al	319	264	249	346
300mm ² Al	424	350	328	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	71	61	58	72
0.04in ² Al	97	83	80	100
0.06in ² Al	124	105	101	127
0.1in ² Al	166	141	135	174
0.15in ² Al	208	176	168	220
0.2in ² Al	248	209	199	265
0.25in ² Al	284	239	226	306
0.3in ² Al	321	269	254	348
0.4in ² Al	381	319	300	419
0.5in ² Al	429	358	336	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Summer **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	233	190	178	227
185mm ² Al	351	285	264	346
300mm ² Al	473	385	352	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	74	63	60	72
0.04in ² Al	104	86	82	100
0.06in ² Al	133	110	104	127
0.1in ² Al	180	149	140	174
0.15in ² Al	226	187	176	220
0.2in ² Al	271	225	209	265
0.25in ² Al	311	258	239	306
0.3in ² Al	352	292	270	348
0.4in ² Al	421	349	321	419
0.5in ² Al	476	396	362	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Utilization Factor	50%
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	201	171	164	227
185mm ² Al	294	251	239	346
300mm ² Al	387	330	313	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	68	59	57	72
0.04in ² Al	93	81	78	100
0.06in ² Al	118	102	98	127
0.1in ² Al	158	137	131	174
0.15in ² Al	196	170	163	220
0.2in ² Al	233	201	192	265
0.25in ² Al	265	228	218	306
0.3in ² Al	298	257	245	348
0.4in ² Al	351	302	288	419
0.05in ² Al	393	338	321	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D4 aut

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Autumn *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	225	185	176	227
185mm ² Al	336	274	258	346
300mm ² Al	448	364	341	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	74	63	60	72
0.04in ² Al	102	86	83	100
0.06in ² Al	130	109	104	127
0.1in ² Al	175	146	140	174
0.15in ² Al	219	183	174	220
0.2in ² Al	261	217	206	265
0.25in ² Al	299	248	234	306
0.3in ² Al	338	279	264	348
0.4in ² Al	401	331	311	419
0.5in ² Al	452	372	349	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

TABLE D4 aut

**11kV CABLES (PILC) 3 CORE BELTED, OIL IMPREGNATED PAPER
INSULATED, LEAD SHEATH AND ARMoured (Cont.)**

Autumn **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric		PVC	Rigiduct	
<u>Aluminium conductors</u>				
95mm ² Al	244	196	184	227
185mm ² Al	368	295	273	346
300mm ² Al	496	398	365	473
Imperial				
<u>Aluminium conductors</u>				
0.0225in ² Al	79	65	61	72
0.04in ² Al	109	89	84	100
0.06in ² Al	139	113	107	127
0.1in ² Al	188	154	145	174
0.15in ² Al	236	193	181	220
0.2in ² Al	284	232	216	265
0.25in ² Al	325	266	247	306
0.3in ² Al	369	302	280	348
0.4in ² Al	441	361	332	419
0.5in ² Al	499	410	375	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Utilization Factor	50%
Maximum Conductor Temperature	65°C
Ratings based on Crater for MV paper cables.	

**11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN
TREFOIL FORMATION.**

Winter **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	639	436	408	644
1 core 0.75 in ²	778	530	494	837
Metric				
1 core 630mm ²	880	593	552	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	739	504	467	818
Metric				
1 core 500mm ²	632	428	399	672
1 core 630 mm ²	717	486	452	781
1 core 800 mm ²	804	546	506	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Winter *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	735	479	442	644
1 core 0.75 in ²	904	586	538	837
Metric				
1 core 630mm ²	1031	659	602	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	867	561	511	818
Metric				
1 core 500mm ²	736	473	434	672
1 core 630 mm ²	839	540	493	781
1 core 800 mm ²	948	608	554	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

**11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN
TREFOIL FORMATION.**

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	814	504	461	644
1 core 0.75 in ²	1006	620	563	837
Metric				
1 core 630mm ²	1152	699	632	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	971	596	537	818
Metric				
1 core 500mm ²	820	500	454	672
1 core 630 mm ²	938	572	518	781
1 core 800 mm ²	1063	647	582	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

TABLE E2 spr

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Spring **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	594	412	388	644
1 core 0.75 in ²	720	500	468	837
Metric				
1 core 630mm ²	809	559	523	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	680	474	442	818
Metric				
1 core 500mm ²	581	404	378	672
1 core 630 mm ²	659	458	428	781
1 core 800 mm ²	740	513	478	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

TABLE E2 spr

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	690	458	425	644
1 core 0.75 in ²	845	560	516	837
Metric				
1 core 630mm ²	956	629	577	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	805	535	489	818
Metric				
1 core 500mm ²	683	452	416	672
1 core 630 mm ²	778	515	473	781
1 core 800 mm ²	878	580	530	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

TABLE E2 spr

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	771	489	449	644
1 core 0.75 in ²	949	600	547	837
Metric				
1 core 630mm ²	1077	675	613	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	908	576	521	818
Metric				
1 core 500mm ²	767	484	441	672
1 core 630 mm ²	877	553	502	781
1 core 800 mm ²	993	625	565	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	546	385	363	644
1 core 0.75 in ²	662	465	438	837
Metric				
1 core 630mm ²	743	520	488	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	625	440	413	818
Metric				
1 core 500mm ²	534	376	354	672
1 core 630 mm ²	605	426	400	781
1 core 800 mm ²	679	477	447	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

TABLE E3 sum

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	640	432	402	644
1 core 0.75 in ²	783	527	487	837
Metric				
1 core 630mm ²	884	591	545	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	645	503	462	818
Metric				
1 core 500mm ²	632	425	393	672
1 core 630 mm ²	720	484	446	781
1 core 800 mm ²	812	545	500	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

**11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN
TREFOIL FORMATION.**

Summer *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	719	466	429	644
1 core 0.75 in ²	885	572	523	837
Metric				
1 core 630mm ²	1003	643	585	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	846	547	497	818
Metric				
1 core 500mm ²	714	461	422	672
1 core 630 mm ²	816	526	480	781
1 core 800 mm ²	924	594	539	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

**11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN
TREFOIL FORMATION.**

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	582	408	384	644
1 core 0.75 in ²	706	495	464	837
Metric				
1 core 630mm ²	793	553	518	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	667	469	438	818
Metric				
1 core 500mm ²	570	399	375	672
1 core 630 mm ²	646	453	424	781
1 core 800 mm ²	725	507	474	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

**11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN
TREFOIL FORMATION.**

Autumn *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	679	455	422	644
1 core 0.75 in ²	831	556	513	837
Metric				
1 core 630mm ²	939	624	574	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	791	531	487	818
Metric				
1 core 500mm ²	671	449	414	672
1 core 630 mm ²	764	511	470	781
1 core 800 mm ²	863	576	527	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

11kV SINGLE CORE PAPER INSULATED LEAD SHEATHED CABLES IN TREFOIL FORMATION.

Autumn *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Imperial		PVC	Rigiduct	
<u>Copper conductors</u>				
1 core 0.5 in ²	759	488	448	644
1 core 0.75 in ²	935	599	546	837
Metric				
1 core 630mm ²	1060	673	612	960
Imperial				
<u>Aluminium conductors</u>				
1 core 1.0 in ²	895	573	520	818
Metric				
1 core 500mm ²	755	482	440	672
1 core 630 mm ²	863	551	501	781
1 core 800 mm ²	977	623	563	899

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	70°C
Ratings based on Crater for MV paper cables.	

TABLE F1 win

11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE OVERSHEATH.

Winter *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	346	286	271	378
120mm ² Cu	392	325	308	434
150mm ² Cu	441	365	346	492
185mm ² Cu.	496	412	390	560
240mm ² Cu	573	478	451	655
300mm ² Cu	648	541	509	751
<u>Aluminium conductors</u>				
95mm ² Al	268	222	211	293
120mm ² Al	305	253	240	337
150mm ² Al	342	284	269	382
185mm ² Al	387	321	304	436
240mm ² Al	448	373	352	512
300mm ² Al	507	423	398	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F1 win

11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE OVERSHEATH.

Winter **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	389	308	290	378
120mm ² Cu	443	351	329	434
150mm ² Cu	500	395	370	492
185mm ² Cu.	564	447	418	560
240mm ² Cu	654	519	485	655
300mm ² Cu	743	590	549	751
<u>Aluminium conductors</u>				
95mm ² Al	302	239	225	293
120mm ² Al	345	273	256	337
150mm ² Al	388	307	288	382
185mm ² Al	440	348	326	436
240mm ² Al	511	406	379	512
300mm ² Al	582	462	430	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F1 win

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Winter *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	418	320	299	378
120mm ² Cu	477	365	341	434
150mm ² Cu	538	412	384	492
185mm ² Cu.	608	467	434	560
240mm ² Cu	706	543	503	655
300mm ² Cu	804	618	571	751
<u>Aluminium conductors</u>				
95mm ² Al	324	248	232	293
120mm ² Al	370	284	265	337
150mm ² Al	417	320	298	382
185mm ² Al	474	364	338	436
240mm ² Al	551	424	393	512
300mm ² Al	629	484	447	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F2 spr

11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE OVERSHEATH.

Spring *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	324	276	262	378
120mm ² Cu	368	313	298	434
150mm ² Cu	413	352	334	492
185mm ² Cu.	465	397	376	560
240mm ² Cu	537	459	435	655
300mm ² Cu	606	519	490	751
<u>Aluminium conductors</u>				
95mm ² Al	252	214	204	293
120mm ² Al	286	244	232	337
150mm ² Al	320	273	259	382
185mm ² Al	362	309	293	436
240mm ² Al	419	359	340	512
300mm ² Al	474	407	384	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F2 spr

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Spring *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	369	300	283	378
120mm ² Cu	420	342	322	434
150mm ² Cu	473	385	361	492
185mm ² Cu.	534	435	408	560
240mm ² Cu	619	505	472	655
300mm ² Cu	703	573	534	751
<u>Aluminium conductors</u>				
95mm ² Al	286	233	219	293
120mm ² Al	327	266	250	337
150mm ² Al	367	299	281	382
185mm ² Al	416	339	318	436
240mm ² Al	483	395	369	512
300mm ² Al	550	449	418	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F2 spr

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Spring *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	399	316	296	378
120mm ² Cu	455	360	337	434
150mm ² Cu	513	406	379	492
185mm ² Cu.	580	460	428	560
240mm ² Cu	674	535	497	655
300mm ² Cu	766	609	563	751
<u>Aluminium conductors</u>				
95mm ² Al	310	245	230	293
120mm ² Al	354	280	262	337
150mm ² Al	398	316	294	382
185mm ² Al	452	359	334	436
240mm ² Al	526	418	388	512
300mm ² Al	600	477	441	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F3 sum

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	303	264	252	378
120mm ² Cu	344	300	286	434
150mm ² Cu	386	337	321	492
185mm ² Cu.	434	380	361	560
240mm ² Cu	501	439	417	655
300mm ² Cu	566	496	470	751
<u>Aluminium conductors</u>				
95mm ² Al	235	205	196	293
120mm ² Al	268	233	222	337
150mm ² Al	300	262	249	382
185mm ² Al	339	296	281	436
240mm ² Al	392	343	326	512
300mm ² Al	443	388	368	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F3 sum

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	348	291	274	378
120mm ² Cu	397	331	312	434
150mm ² Cu	446	373	350	492
185mm ² Cu.	504	421	395	560
240mm ² Cu	584	488	457	655
300mm ² Cu	663	554	517	751
<u>Aluminium conductors</u>				
95mm ² Al	270	226	213	293
120mm ² Al	308	257	243	337
150mm ² Al	347	289	272	382
185mm ² Al	393	328	308	436
240mm ² Al	456	381	357	512
300mm ² Al	519	433	405	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F3 sum

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Summer *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	380	310	290	378
120mm ² Cu	433	353	330	434
150mm ² Cu	488	398	372	492
185mm ² Cu.	551	450	420	560
240mm ² Cu	640	523	487	655
300mm ² Cu	727	595	551	751
<u>Aluminium conductors</u>				
95mm ² Al	294	240	225	293
120mm ² Al	336	274	257	337
150mm ² Al	378	309	289	382
185mm ² Al	429	351	327	436
240mm ² Al	500	409	380	512
300mm ² Al	569	465	431	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F4 aut

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Autumn *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	319	274	261	378
120mm ² Cu	362	311	296	434
150mm ² Cu	406	349	332	492
185mm ² Cu.	457	394	373	560
240mm ² Cu	528	455	431	655
300mm ² Cu	596	515	487	751
<u>Aluminium conductors</u>				
95mm ² Al	248	212	202	293
120mm ² Al	281	242	230	337
150mm ² Al	315	271	257	382
185mm ² Al	356	307	291	436
240mm ² Al	412	356	337	512
300mm ² Al	467	403	381	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F4 aut

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Autumn **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	364	299	282	378
120mm ² Cu	415	340	320	434
150mm ² Cu	467	383	360	492
185mm ² Cu.	527	433	406	560
240mm ² Cu	611	503	470	655
300mm ² Cu	693	570	532	751
<u>Aluminium conductors</u>				
95mm ² Al	283	232	219	293
120mm ² Al	322	265	249	337
150mm ² Al	362	297	279	382
185mm ² Al	411	337	317	436
240mm ² Al	477	392	367	512
300mm ² Al	543	446	416	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F4 aut

**11kV CABLES 3 CORE, XLPE INSULATED, COPPER WIRE SCREENED, MDPE
OVERSHEATH.**

Autumn *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	395	316	296	378
120mm ² Cu	450	360	337	434
150mm ² Cu	508	406	379	492
185mm ² Cu.	574	460	428	560
240mm ² Cu	666	535	496	655
300mm ² Cu	758	608	563	751
<u>Aluminium conductors</u>				
95mm ² Al.	306	245	230	293
120mm ² Al.	350	280	262	337
150mm ² Al.	394	315	294	382
185mm ² Al.	447	358	334	436
240mm ² Al	520	417	388	512
300mm ² Al.	593	476	440	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G1 win

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Winter *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	346	287	272	381
120mm ² Cu	393	326	309	437
150mm ² Cu	439	366	346	494
185mm ² Cu.	494	412	389	561
240mm ² Cu	568	475	447	655
300mm ² Cu	637	533	501	744
<u>Aluminium conductors</u>				
95mm ² Al	269	223	212	296
120mm ² Al	306	254	240	340
150mm ² Al	342	284	269	384
185mm ² Al	386	322	304	438
240mm ² Al	446	373	351	514
300mm ² Al	502	421	395	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G1 win

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMoured, MDPE
OVERSHEATH.**

Winter **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	390	310	291	381
120mm ² Cu	444	352	331	437
150mm ² Cu	499	396	371	494
185mm ² Cu.	563	447	418	561
240mm ² Cu	650	517	482	655
300mm ² Cu	732	582	541	744
<u>Aluminium conductors</u>				
95mm ² Al	303	240	226	296
120mm ² Al	346	274	257	340
150mm ² Al	388	308	288	384
185mm ² Al	439	349	326	438
240mm ² Al	510	406	378	514
300mm ² Al	577	459	427	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G1 win

11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE OVERSHEATH.

Winter *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	419	322	301	381
120mm ² Cu	477	367	342	437
150mm ² Cu	537	413	384	494
185mm ² Cu.	607	467	433	561
240mm ² Cu	702	542	501	655
300mm ² Cu	792	611	563	744
<u>Aluminium conductors</u>				
95mm ² Al	325	250	234	296
120mm ² Al	372	286	266	340
150mm ² Al	417	321	299	384
185mm ² Al	474	365	339	438
240mm ² Al	551	425	393	514
300mm ² Al	624	482	444	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G2 spr

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Spring *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	325	277	263	381
120mm ² Cu	368	314	298	437
150mm ² Cu	412	352	334	494
185mm ² Cu.	463	396	375	561
240mm ² Cu	532	456	431	655
300mm ² Cu	596	511	483	744
<u>Aluminium conductors</u>				
95mm ² Al	252	215	205	296
120mm ² Al	286	245	232	340
150mm ² Al	320	274	260	384
185mm ² Al	362	310	293	438
240mm ² Al	418	358	339	514
300mm ² Al	470	404	381	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G2 spr

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Spring **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	370	302	284	381
120mm ² Cu	421	343	323	437
150mm ² Cu	472	386	362	494
185mm ² Cu.	535	435	407	561
240mm ² Cu	615	503	469	655
300mm ² Cu	692	566	527	744
<u>Aluminium conductors</u>				
95mm ² Al	287	234	221	296
120mm ² Al	327	267	251	340
150mm ² Al	367	300	281	384
185mm ² Al	416	340	318	438
240mm ² Al	483	395	369	514
300mm ² Al	546	446		587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE F2 spr

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	400	318	298	381
120mm ² Cu	456	362	338	437
150mm ² Cu	513	407	380	494
185mm ² Cu.	579	460	428	561
240mm ² Cu	670	533	494	655
300mm ² Cu	755	601	555	744
<u>Aluminium conductors</u>				
95mm ² Al	311	247	231	296
120mm ² Al	355	282	263	340
150mm ² Al	399	317	295	384
185mm ² Al	452	360	334	438
240mm ² Al	526	419	388	514
300mm ² Al	595	474	438	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G3 sum

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Summer *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	304	265	253	381
120mm ² Cu	344	301	287	437
150mm ² Cu	385	337	321	494
185mm ² Cu.	433	379	360	561
240mm ² Cu	497	436	413	655
300mm ² Cu	556	488	462	744
<u>Aluminium conductors</u>				
95mm ² Al	236	206	197	296
120mm ² Al	268	234	223	340
150mm ² Al	300	262	249	384
185mm ² Al	338	296	281	438
240mm ² Al	390	342	325	514
300mm ² Al	439	385	365	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMoured, MDPE OVERSHEATH.

Summer *CYCLIC* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	350	292	276	381
120mm ² Cu	397	332	313	437
150mm ² Cu	446	373	351	494
185mm ² Cu.	503	421	395	561
240mm ² Cu	580	486	454	655
300mm ² Cu	653	546	509	744
<u>Aluminium conductors</u>				
95mm ² Al	271	227	214	296
120mm ² Al	309	259	244	340
150mm ² Al	347	290	273	384
185mm ² Al	393	329	308	438
240mm ² Al	456	381	357	514
300mm ² Al	515	431	402	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G3 sum

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Summer *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	381	311	292	381
120mm ² Cu	434	355	332	437
150mm ² Cu	487	399	372	494
185mm ² Cu.	550	450	419	561
240mm ² Cu	636	521	484	655
300mm ² Cu	717	587	543	744
<u>Aluminium conductors</u>				
95mm ² Al	296	242	227	296
120mm ² Al	337	276	258	340
150mm ² Al	379	310	289	384
185mm ² Al	430	352	328	438
240mm ² Al	499	409	380	514
300mm ² Al	565	463	429	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G4 aut

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Autumn *SUSTAINED* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	320	275	262	381
120mm ² Cu	362	312	296	437
150mm ² Cu	405	349	331	494
185mm ² Cu.	455	393	373	561
240mm ² Cu	522	452	428	655
300mm ² Cu	586	507	479	744
<u>Aluminium conductors</u>				
95mm ² Al	248	213	203	296
120mm ² Al	282	243	231	340
150mm ² Al	315	272	258	384
185mm ² Al	356	308	291	438
240mm ² Al	411	355	336	514
300mm ² Al	462	400	378	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G4 aut

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMoured, MDPE
OVERSHEATH.**

Autumn **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
<u>Metric</u>				
<u>Copper conductors</u>				
95mm ² Cu	365	300	283	381
120mm ² Cu	415	342	321	437
150mm ² Cu	466	384	360	494
185mm ² Cu.	526	433	406	561
240mm ² Cu	607	500	467	655
300mm ² Cu	683	562	524	744
<u>Aluminium conductors</u>				
95mm ² Al	284	233	220	296
120mm ² Al	323	266	250	340
150mm ² Al	363	298	280	384
185mm ² Al	411	338	317	438
240mm ² Al	476	393	369	514
300mm ² Al	539	444	414	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE G4 aut

**11kV CABLES 3 CORE XLPE INSULATED, STEEL WIRE ARMOURED, MDPE
OVERSHEATH.**

Autumn *DISTRIBUTION* Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS - AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
<u>Copper conductors</u>				
95mm ² Cu	396	318	297	381
120mm ² Cu	451	362	338	437
150mm ² Cu	507	407	379	494
185mm ² Cu.	573	460	428	561
240mm ² Cu	662	532	494	655
300mm ² Cu	747	600	555	744
<u>Aluminium conductors</u>				
95mm ² Al.	308	247	231	296
120mm ² Al.	351	282	263	340
150mm ² Al.	394	317	295	384
185mm ² Al.	447	359	334	438
240mm ² Al	520	418	388	514
300mm ² Al.	589	474	438	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H1 win

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Winter **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	661	584	562	786
630mm ² Copper	949	812	773	1204
<u>Aluminium conductors</u>				
70mm ² Al.	229	222	217	249
95mm ² Al.	274	263	257	303
150mm ² Al.	351	332	323	397
185mm ² Al.	398	374	362	457
240 mm ² Al.	461	428	414	538
300mm ² Al.	521	479	462	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H1 win

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Winter **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	759	659	628	786
630mm ² Copper	1108	932	877	1204
<u>Aluminium conductors</u>				
70mm ² Al.	256	244	237	249
95mm ² Al.	308	291	282	303
150mm ² Al.	397	370	356	397
185mm ² Al.	452	417	402	457
240 mm ² Al.	526	480	460	538
300mm ² Al.	598	539	516	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H1 win

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Winter **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	838	720	682	786
630mm ² Copper	1236	1028	961	1204
<u>Aluminium conductors</u>				
70mm ² Al.	279	262	253	249
95mm ² Al.	337	314	302	303
150mm ² Al.	435	400	384	397
185mm ² Al.	497	453	434	457
240 mm ² Al.	580	522	498	538
300mm ² Al.	660	588	560	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	10°C
Air Ambient Temperature	10°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H2 spr

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Spring **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	616	554	535	786
630mm ² Copper	881	767	734	1204
<u>Aluminium conductors</u>				
70mm ² Al.	214	212	208	249
95mm ² Al.	256	252	246	303
150mm ² Al.	327	317	309	397
185mm ² Al.	371	356	346	457
240 mm ² Al.	430	407	395	538
300mm ² Al.	486	455	441	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H2 spr

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Spring **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	712	635	606	786
630mm ² Copper	1038	893	893	1204
<u>Aluminium conductors</u>				
70mm ² Al.	242	236	230	249
95mm ² Al.	291	282	273	303
150mm ² Al.	374	357	345	397
185mm ² Al.	426	403	389	457
240 mm ² Al.	495	463	445	538
300mm ² Al.	561	519	499	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

TABLE H2 spr

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Spring **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	793	702	667	786
630mm ² Copper	1167	998	937	1204
<u>Aluminium conductors</u>				
70mm ² Al.	265	257	249	249
95mm ² Al.	320	308	297	303
150mm ² Al.	413	392	377	397
185mm ² Al.	471	443	425	457
240 mm ² Al.	549	510	488	538
300mm ² Al.	625	574	548	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Utilization factor	50%
Ratings based on Crater for MV polymeric cables.	

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Summer **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	573	504	476	786
630mm ² Copper	818	719	674	1204
<u>Aluminium conductors</u>				
70mm ² Al.	200	176	168	249
95mm ² Al.	239	210	200	303
150mm ² Al.	305	268	255	397
185mm ² Al.	346	304	288	457
240 mm ² Al.	400	352	333	538
300mm ² Al.	452	398	375	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

TABLE H3 sum

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Summer **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	668	568	528	786
630mm ² Copper	970	824	756	1204
<u>Aluminium conductors</u>				
70mm ² Al.	228	194	183	249
95mm ² Al.	273	233	219	303
150mm ² Al.	351	299	280	397
185mm ² Al.	399	340	318	457
240 mm ² Al.	464	395	368	538
300mm ² Al.	526	448	416	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

TABLE H3 sum

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Summer **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	748	614	565	786
630mm ² Copper	1098	899	815	1204
<u>Aluminium conductors</u>				
70mm ² Al.	252	207	194	249
95mm ² Al.	303	249	232	303
150mm ² Al.	391	321	298	397
185mm ² Al.	445	366	339	457
240 mm ² Al.	519	426	393	538
300mm ² Al.	590	484	445	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2°C m/W
Ground Ambient Temperature	15°C
Air Ambient Temperature	15°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

TABLE H4 aut

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Autumn **SUSTAINED** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	SUSTAINED CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	605	524	493	786
630mm ² Copper	865	750	700	1204
<u>Aluminium conductors</u>				
70mm ² Al.	211	182	173	249
95mm ² Al.	252	218	207	303
150mm ² Al.	322	278	264	397
185mm ² Al.	365	316	298	457
240 mm ² Al.	422	366	345	538
300mm ² Al.	477	413	389	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

TABLE H4 aut

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Autumn **CYCLIC** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	CYCLIC CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	701	586	543	786
630mm ² Copper	1021	852	780	1204
<u>Aluminium conductors</u>				
70mm ² Al.	239	199	188	249
95mm ² Al.	287	239	225	303
150mm ² Al.	368	308	288	397
185mm ² Al.	419	350	326	457
240 mm ² Al.	487	407	379	538
300mm ² Al.	553	462	428	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

TABLE H4 aut

**11kV SINGLE CORE (OR TRIPLEX) E.P.R. INSULATED COPPER WIRE
SCREEN & M.D.P.E. OUTER SHEATH CABLES, LAID IN TREFOIL.** (Wet design)

Autumn **DISTRIBUTION** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	DISTRIBUTION CURRENT RATINGS-AMPS			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
<u>Metric sizes</u>		PVC	Rigiduct	
<u>Copper conductors</u>				
300mm ² Copper	783	629	577	786
630mm ² Copper	1150	922	834	1204
<u>Aluminium conductors</u>				
70mm ² Al.	262	211	197	249
95mm ² Al.	316	254	237	303
150mm ² Al.	408	328	304	397
185mm ² Al.	465	374	346	457
240 mm ² Al.	542	435	401	538
300mm ² Al.	617	496	455	619

Note: - These rating are suitable for 11kV XLPE Triplex of similar construction.

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Maximum Conductor Temperature	90°C
Ratings based on Crater for MV polymeric cables.	

APPENDIX A

SUPERSEDED DOCUMENTATION

This document supersedes ST:SD8B/2 dated September 2003 which should now be withdrawn.

APPENDIX B

ASSOCIATED DOCUMENTATION

ST: CA6A/2 - Relating to the Installation of Underground Cables

APPENDIX C

IMPACT ON COMPANY POLICY

This Standard Technique has been updated to add all four seasons to the cable rating document instead of just having one season as given in the previous document. In addition the document has been broken up into manageable parts, with each part being for a particular voltage level.

APPENDIX D

IMPLEMENTATION OF POLICY

This Standard Technique shall be communicated to all relevant WPD Planning and Control staff at the next Team Briefing by the relevant Team Manager.

APPENDIX E

KEY WORDS

11kV Group Derating, Sustained Rating, Cyclic Rating, Distribution Rating, Laid Direct Rating, Duct Rating, Air Rating.