Electricity Distribution

nationalgrid

Company Directive

STANDARD TECHNIQUE: SD8B/4 (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.

Author	Richard Summers
Implementation Date	November 2017
Approved by	Policy Manager
Date	17 November 2017

All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED

Introduction

This document replaces the existing version, ST:SD8B/3.

Main Changes

This document has been updated in the following areas

- The ratings for 11kV single core EPR cables have been updated to reflect standard installation conditions and duct sizes used.

Impact of Changes

This updated document should be used for all ratings associated with 11kV underground cables

Implementation Actions

Team Managers are responsible for making the relevant teams aware of this document.

Implementation Timetable

The document can be implemented with immediate effect.

Document Revision & Review Table		
Date	**Comments**	**Author**
Nov 17	• Tables H1,H2, H3 and H4 have been updated	Richard Summers

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 Tr (g);

Ground ambient temperature (^{O}C);

Air ambient temperature (^{O}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^{O}Cm/W and a summer soil resistivity of 1.2^{o}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 Tr of 1.2^{o}Cm/W.

Ground ambient temperatures across the South West and South Wales vary between 7^{O}C in the winter and 15^{O}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^{O}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^{o}C. The maximum conductor temperature for EPR and XLPE cables is 90^{o}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^{O}Cm/W;

Ground ambient temperature of 10^{O}C;

Maximum conductor temperature of 65^{O}C for 11kV for 3 core paper cables and 70^{O}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°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 0.5×10^{-6} m²/s	G = 0.9°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

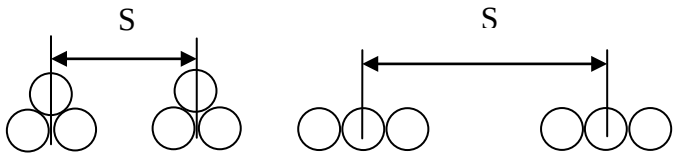
If required, further guidance should be sought from the Company Cable Engineer, Policy Section, Avonbank, Feeder Road, Bristol where necessary.

5.1 INDEX

TABLE	DESCRIPTION
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	11kVSingle 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					
		Trefoil	Laid Flat	0.15	0.20	0.3	0.45
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

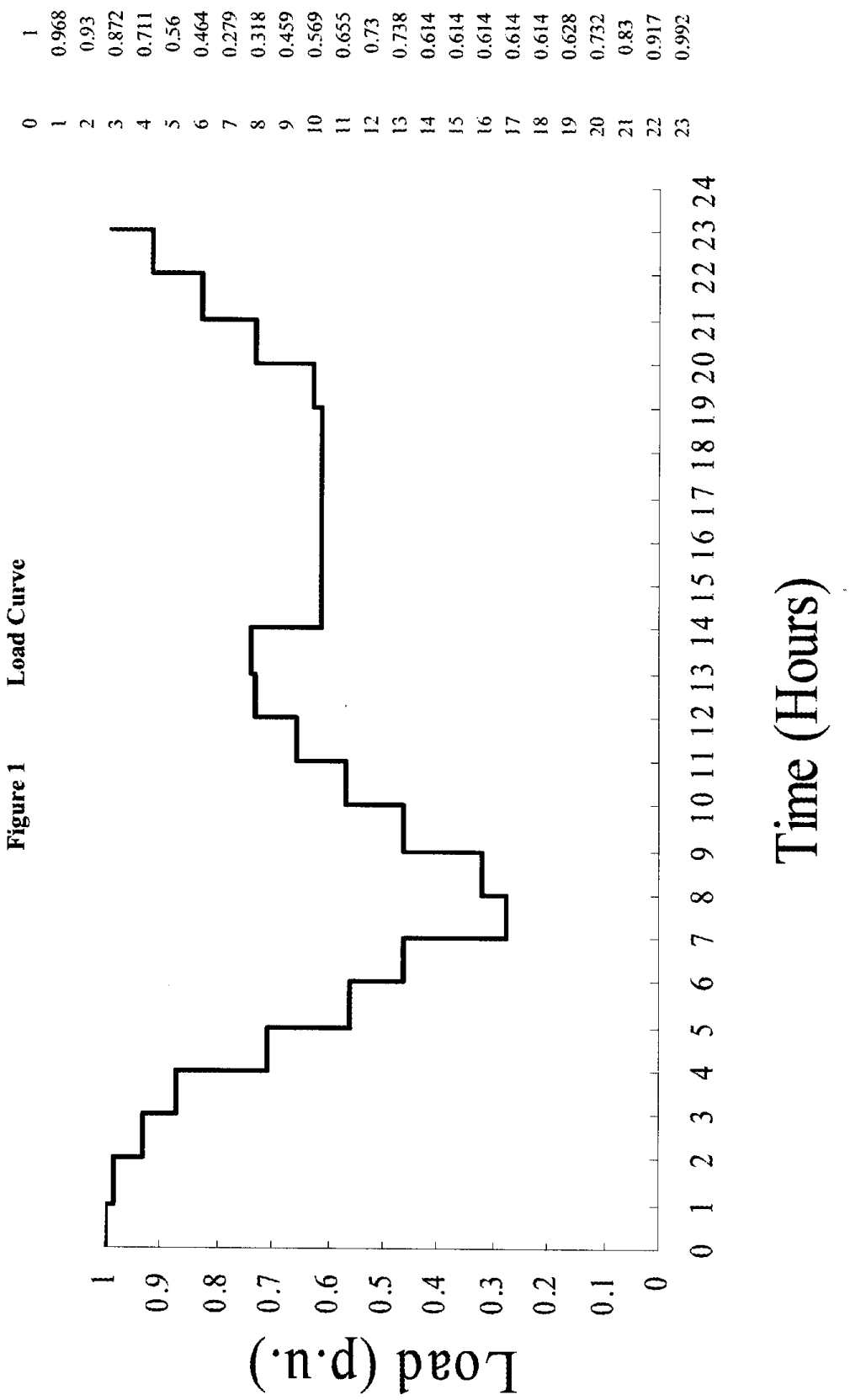


Figure 1 Load Curve
0 1
1 0.968
2 0.93
3 0.872
4 0.711
5 0.56
6 0.464
7 0.279
8 0.318
9 0.459
10 0.569
11 0.655
12 0.73
13 0.738
14 0.614
15 0.614
16 0.614
17 0.614
18 0.614
19 0.628
20 0.732
21 0.83
22 0.917
23 0.992
Load (p.u.)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Time (Hours)

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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	206	172	165	212
185mm² Al.	303	255	258	324
300mm² Al.	393	335	317	432
Copper conductors				
185mm² Cu	384	317	302	411
300mm² Cu	494	411	390	544
400mm² Cu	594	493	464	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 0.9^{o}C m/W

Ground Ambient Temperature 10^{o}C

Air Ambient Temperature 10^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	226	183	174	212
185mm² Al.	338	274	258	324
300mm² Al.	442	362	339	432
Copper conductors				
185mm² Cu	429	341	322	411
300mm² Cu	556	444	417	544
400mm² Cu	680	536	499	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 0.9^{o}C m/W

Ground Ambient Temperature 10^{o}C

Air Ambient Temperature 10^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	246	191	180	212
185mm² Al.	371	294	272	324
300mm² Al.	488	395	362	432
Copper conductors				
185mm² Cu	471	366	340	411
300mm² Cu	615	485	447	544
400mm² Cu	747	585	535	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	194	166	159	212
185mm² Al.	284	245	233	324
300mm² Al.	368	320	304	432
Copper conductors				
185mm² Cu	360	304	290	411
300mm² Cu	462	392	373	544
400mm² Cu	553	470	445	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 1.05^{o}C m/W

Ground Ambient Temperature 12^{o}C

Air Ambient Temperature 12^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	215	178	169	212
185mm² Al.	320	266	251	324
300mm² Al.	418	350	329	432
Copper conductors				
185mm² Cu	406	329	312	411
300mm² Cu	526	428	404	544
400mm² Cu	641	518	483	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 1.05^{o}C m/W

Ground Ambient Temperature 12^{o}C

Air Ambient Temperature 12^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	235	186	175	212
185mm² Al.	353	286	265	324
300mm² Al.	464	384	352	432
Copper conductors				
185mm² Cu	449	356	331	411
300mm² Cu	584	471	434	544
400mm² Cu	709	569	520	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	181	158	152	212
185mm² Al.	264	233	222	324
300mm² Al.	342	304	289	432
Copper conductors				
185mm² Cu	335	288	276	411
300mm² Cu	430	371	354	544
400mm² Cu	513	445	422	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 1.2^{o}C m/W

Ground Ambient Temperature 15^{o}C

Air Ambient Temperature 15^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	203	171	163	212
185mm² Al.	300	255	241	324
300mm² Al.	393	335	315	432
Copper conductors				
185mm² Cu	382	315	299	411
300mm² Cu	494	409	386	544
400mm² Cu	600	496	464	677

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 1.2^{o}C m/W

Ground Ambient Temperature 15^{o}C

Air Ambient Temperature 15^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	222	180	169	212
185mm² Al.	333	276	255	324
300mm² Al.	437	370	339	432
Copper conductors				
185mm² Cu	424	343	319	411
300mm² Cu	551	454	418	544
400mm² Cu	668	548	500	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	191	165	158	212
185mm² Al.	280	243	232	324
300mm² Al.	363	318	302	432
Copper conductors				
185mm² Cu	355	301	288	411
300mm² Cu	455	388	370	544
400mm² Cu	544	466	441	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	213	177	169	212
185mm² Al.	316	264	250	324
300mm² Al.	413	348	327	432
Copper conductors				
185mm² Cu	402	328	311	411
300mm² Cu	520	426	401	544
400mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	233	186	174	212
185mm² Al.	349	286	264	324
300mm² Al.	459	383	351	432
Copper conductors				
185mm² Cu	445	355	330	411
300mm² Cu	578	470	433	544
400mm² Cu	702	567	518	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	218	177	170	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	239	188	178	212
185mm² 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
Aluminium conductors		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^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	194	166	159	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	215	178	169	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	235	186	175	212
185mm² 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.

TABLE B3 sum

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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	181	158	152	212
185mm² Al.	264	233	222	324
300mm² Al.	342	304	289	432
Copper conductors				
185mm² Cu	335	288	276	411
300mm² Cu	430	371	354	544
400mm² Cu	513	445	422	677

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	203	171	163	212
185mm² Al.	300	255	241	324

Parameters

Maximum depth of lay 0.8m

Soil Thermal Resistivity (g) 1.2^{o}C m/W

Ground Ambient Temperature 15^{o}C

Air Ambient Temperature 15^{o}C

Maximum Conductor Temperature 65^{o}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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	222	180	169	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	191	165	158	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	213	177	169	212
185mm² 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
Aluminium conductors		PVC	Rigiduct	
95mm² Al.	233	186	174	212
185mm² 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	
Copper conductors				
95 mm² Cu	279	231	221	292
185 mm² Cu	409	337	320	443
300 mm² Cu	534	440	415	600
Imperial				
Copper conductors				
0.0225in² Cu	94	79	77	93
0.04in²Cu	129	109	105	129
0.06in²Cu	163	137	132	164
0.1in²Cu	218	184	176	224
0.15in²Cu	272	228	218	283
0.2in²Cu	323	270	257	341
0.25in²Cu	367	307	292	392
0.3in²Cu	412	344	327	446
0.4in²Cu	485	404	383	533
0.5in²Cu	539	449	424	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	65^{o}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	
Copper conductors				
95mm² Cu.	310	247	234	292
185mm² Cu.	461	363	341	443
300mm² Cu.	610	478	446	600
Imperial				
Copper conductors				
0.0225in² Cu.	101	83	80	93
0.04in² Cu.	139	114	110	129
0.06in² Cu.	177	145	138	164
0.1in² Cu.	239	195	186	224
0.15in² Cu.	299	243	231	283
0.2in² Cu.	357	288	273	341
0.25in² Cu.	409	329	310	392
0.3in² Cu.	461	370	348	446
0.4in² Cu.	546	436	409	533
0.5in² 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	
Copper conductors				
95mm² Cu.	332	210	244	292
185mm² Cu.	500	389	360	443
300mm² Cu.	668	519	476	600
Imperial				
Copper conductors				
0.0225in² Cu.	106	86	82	93
0.04in² Cu.	147	118	112	129
0.06in² Cu.	187	151	142	164
0.1in² Cu.	254	205	193	224
0.15in² Cu.	320	257	241	283
0.2in² Cu.	384	308	287	341
0.25in² Cu.	441	354	329	392
0.3in² Cu.	500	401	371	446
0.4in² Cu.	595	477	439	533
0.5in² Cu.	670	537	491	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Utilization Factor	50%
Max. Conductor Temperature	65^{o}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	
Copper conductors				
95 mm² Cu	262	222	213	292
185 mm² Cu	382	323	308	443
300 mm² Cu	497	421	398	600
Imperial				
Copper conductors				
0.0225in² Cu	89	77	74	93
0.04in²Cu	122	105	101	129
0.06in²Cu	154	132	127	164
0.1in²Cu	206	177	170	224
0.15in²Cu	256	220	211	283
0.2in²Cu	303	259	248	341
0.25in²Cu	344	295	281	392
0.3in²Cu	386	330	315	446
0.4in²Cu	453	387	368	533
0.5in²Cu	503	430	407	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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	
Copper conductors				
95mm² Cu.	294	239	227	292
185mm² Cu.	435	352	331	443
300mm² Cu.	574	464	432	600
Imperial				
Copper conductors				
0.0225in² Cu.	96	81	78	93
0.04in² Cu.	133	111	107	129
0.06in² Cu.	169	141	135	164
0.1in² Cu.	227	189	181	224
0.15in² Cu.	284	236	224	283
0.2in² Cu.	339	280	265	341
0.25in² Cu.	387	319	302	392
0.3in² Cu.	437	358	338	446
0.4in² Cu.	516	422	397	533
0.5in² 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	
Copper conductors				
95mm² Cu.	317	253	237	292
185mm² Cu.	476	378	350	443
300mm² Cu.	635	505	463	600
Imperial				
Copper conductors				
0.0225in² Cu.	102	84	80	93
0.04in² Cu.	141	116	110	129
0.06in² Cu.	180	147	139	164
0.1in² Cu.	244	200	188	224
0.15in² Cu.	306	251	236	283
0.2in² Cu.	368	301	281	341
0.25in² Cu.	421	345	321	392
0.3in² Cu.	477	391	361	446
0.4in² Cu.	567	465	427	533
0.5in² 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	
Copper conductors				
95 mm² Cu	244	212	203	292
185 mm² Cu	355	307	293	443
300 mm² Cu	460	399	379	600
Imperial				
Copper conductors				
0.0225in² Cu	83	73	71	93
0.04in²Cu	114	100	97	129
0.06in²Cu	144	126	122	164
0.1in²Cu	193	169	163	224
0.15in²Cu	239	209	201	283
0.2in²Cu	283	247	237	341
0.25in²Cu	321	280	268	392
0.3in²Cu	360	314	300	446
0.4in²Cu	421	367	350	533
0.5in²Cu	467	407	387	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	65^{o}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	
Copper conductors				
95mm² Cu.	276	230	219	292
185mm² Cu.	407	337	318	443
300mm² Cu.	537	442	415	600
Imperial				
Copper conductors				
0.0225in² Cu.	91	78	75	93
0.04in² Cu.	126	107	103	129
0.06in² Cu.	159	136	130	164
0.1in² Cu.	214	182	174	224
0.15in² Cu.	268	227	216	283
0.2in² Cu.	319	269	255	341
0.25in² Cu.	364	306	290	392
0.3in² Cu.	410	344	325	446
0.4in² Cu.	485	405	381	533
0.5in² 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	
Copper conductors				
95mm² Cu.	301	245	229	292
185mm² Cu.	449	365	338	443
300mm² Cu.	599	487	446	600
Imperial				
Copper conductors				
0.0225in² Cu.	97	82	78	93
0.04in² Cu.	135	112	106	129
0.06in² Cu.	171	143	135	164
0.1in² Cu.	231	194	182	224
0.15in² Cu.	291	243	228	283
0.2in² Cu.	348	291	271	341
0.25in² Cu.	399	333	309	392
0.3in² Cu.	451	377	348	446
0.4in² Cu.	535	448	411	533
0.5in² Cu.	601	504	460	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Utilization Factor	50%
Max. Conductor Temperature	65^{o}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	
Copper conductors				
95 mm² Cu	258	221	211	292
185 mm² Cu	376	321	321	443
300 mm² Cu	489	417	417	600
Imperial				
Copper conductors				
0.0225in² Cu	88	76	74	93
0.04in²Cu	120	104	101	129
0.06in²Cu	152	131	127	164
0.1in²Cu	203	176	169	224
0.15in²Cu	253	218	209	283
0.2in²Cu	299	258	246	341
0.25in²Cu	340	293	279	392
0.3in²Cu	381	328	312	446
0.4in²Cu	446	384	365	533
0.5in²Cu	496	426	404	603

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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	
Copper conductors				
95mm² Cu.	290	238	226	292
185mm² Cu.	429	350	330	443
300mm² Cu.	567	460	430	600
Imperial				
Copper conductors				
0.0225in² Cu.	95	81	78	93
0.04in² Cu.	132	111	106	129
0.06in² Cu.	167	140	134	164
0.1in² Cu.	225	189	180	224
0.15in² Cu.	281	235	224	283
0.2in² Cu.	335	279	264	341
0.25in² Cu.	383	317	300	392
0.3in² Cu.	432	357	337	446
0.4in² Cu.	510	420	395	533
0.5in² 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.

TABLE C4 aut

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	
Copper conductors				
95mm² Cu.	314	253	236	292
185mm² Cu.	471	377	349	443
300mm² Cu.	629	503	461	600
Imperial				
Copper conductors				
0.0225in² Cu.	101	84	80	93
0.04in² Cu.	140	116	110	129
0.06in² Cu.	179	147	139	164
0.1in² Cu.	242	200	188	224
0.15in² Cu.	304	251	235	283
0.2in² Cu.	365	300	280	341
0.25in² Cu.	418	344	320	392
0.3in² Cu.	473	390	360	446
0.4in² Cu.	561	463	426	533
0.5in² 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	
Aluminium conductors				
95mm² Al	217	180	171	227
185mm² Al	320	264	250	346
300mm² Al	422	348	329	473
Imperial				
Aluminium conductors				
0.0225in² Al	73	62	59	72
0.04in² Al	100	84	81	100
0.06in² Al	126	106	102	127
0.1in² Al	169	143	137	174
0.15in² Al	211	177	170	220
0.2in² Al	251	210	200	265
0.25in² Al	286	240	228	306
0.3in² Al	323	269	256	348
0.4in² Al	381	318	302	419
0.05in² Al	428	357	337	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	65^{o}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 ***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	
Aluminium conductors				
95mm² Al	241	192	182	227
185mm² Al	360	284	267	346
300mm² Al	482	378	353	473
Imperial				
Aluminium conductors				
0.0225in² Al	78	65	62	72
0.04in² Al	108	89	85	100
0.06in² Al	137	112	107	127
0.1in² Al	185	151	144	174
0.15in² Al	232	189	179	220
0.2in² Al	278	224	213	265
0.25in² Al	319	256	242	306
0.3in² Al	361	289	273	348
0.4in² Al	429	343	322	419
0.5in² Al	484	386	361	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	65^{o}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 ***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	
Aluminium conductors				
95mm² Al	258	202	189	227
185mm² Al	390	304	282	346
300mm² Al	527	410	376	473
Imperial				
Aluminium conductors				
0.0225in² Al	82	66	63	72
0.04in² Al	114	91	86	100
0.06in² Al	145	116	110	127
0.1in² Al	197	158	148	174
0.15in² Al	248	198	186	220
0.2in² Al	299	238	222	265
0.25in² Al	344	274	254	306
0.3in² Al	391	311	288	348
0.4in² Al	468	372	342	419
0.5in² Al	530	422	387	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Utilization Factor	50%
Maximum Conductor Temperature	65^{o}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	
Aluminium conductors				
95mm² Al	204	173	165	227
185mm² Al	299	253	241	346
300mm² Al	393	333	315	473
Imperial				
Aluminium conductors				
0.0225in² Al	69	60	58	72
0.04in² Al	95	81	78	100
0.06in² Al	119	103	99	127
0.1in² Al	160	137	132	174
0.15in² Al	199	171	164	220
0.2in² Al	236	202	193	265
0.25in² Al	269	230	220	306
0.3in² Al	302	259	246	348
0.4in² Al	357	308	290	419
0.05in² Al	399	341	324	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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	
Aluminium conductors				
95mm² Al	228	186	177	227
185mm² Al	340	275	259	346
300mm² Al	454	366	342	473
Imperial				
Aluminium conductors				
0.0225in² Al	75	63	61	72
0.04in² Al	103	86	83	100
0.06in² Al	131	109	105	127
0.1in² Al	176	147	140	174
0.15in² Al	221	183	174	220
0.2in² Al	264	218	207	265
0.25in² Al	302	249	235	306
0.3in² Al	342	280	265	348
0.4in² Al	406	332	313	419
0.5in² Al	458	374	350	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}C

Ratings based on Crater for MV paper cables.

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	
Aluminium conductors				
95mm² Al	246	197	184	227
185mm² Al	372	296	274	346
300mm² Al	501	399	366	473
Imperial				
Aluminium conductors				
0.0225in² Al	79	65	62	72
0.04in² Al	110	89	85	100
0.06in² Al	140	113	107	127
0.1in² Al	189	154	145	174
0.15in² Al	238	194	182	220
0.2in² Al	286	232	217	265
0.25in² Al	328	267	248	306
0.3in² Al	373	303	280	348
0.4in² Al	445	362	334	419
0.5in² Al	504	411	376	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Utilization Factor	50%
Maximum Conductor Temperature	65^{o}C

Ratings based on Crater for MV paper cables.

TABLE D3 sum

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	
Aluminium conductors				
95mm² Al	190	164	158	227
185mm² Al	277	240	229	346
300mm² Al	364	316	300	473
Imperial				
Aluminium conductors				
0.0225in² Al	65	57	55	72
0.04in² Al	89	78	75	100
0.06in² Al	112	98	95	127
0.1in² Al	150	131	126	174
0.15in² Al	186	163	156	220
0.2in² Al	220	192	184	265
0.25in² Al	250	219	209	306
0.3in² Al	281	246	235	348
0.4in² Al	332	289	276	419
0.05in² Al	371	324	308	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	65^{o}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	
Aluminium conductors				
95mm² Al	214	179	170	227
185mm² Al	319	264	249	346
300mm² Al	424	350	328	473
Imperial				
Aluminium conductors				
0.0225in² Al	71	61	58	72
0.04in² Al	97	83	80	100
0.06in² Al	124	105	101	127
0.1in² Al	166	141	135	174
0.15in² Al	208	176	168	220
0.2in² Al	248	209	199	265
0.25in² Al	284	239	226	306
0.3in² Al	321	269	254	348
0.4in² Al	381	319	300	419
0.5in² Al	429	358	336	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	65^{o}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	
Aluminium conductors				
95mm² Al	233	190	178	227
185mm² Al	351	285	264	346
300mm² Al	473	385	352	473
Imperial				
Aluminium conductors				
0.0225in² Al	74	63	60	72
0.04in² Al	104	86	82	100
0.06in² Al	133	110	104	127
0.1in² Al	180	149	140	174
0.15in² Al	226	187	176	220
0.2in² Al	271	225	209	265
0.25in² Al	311	258	239	306
0.3in² Al	352	292	270	348
0.4in² Al	421	349	321	419
0.5in² Al	476	396	362	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Utilization Factor	50%
Maximum Conductor Temperature	65^{o}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 ***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	
Aluminium conductors				
95mm² Al	201	171	164	227
185mm² Al	294	251	239	346
300mm² Al	387	330	313	473
Imperial				
Aluminium conductors				
0.0225in² Al	68	59	57	72
0.04in² Al	93	81	78	100
0.06in² Al	118	102	98	127
0.1in² Al	158	137	131	174
0.15in² Al	196	170	163	220
0.2in² Al	233	201	192	265
0.25in² Al	265	228	218	306
0.3in² Al	298	257	245	348
0.4in² Al	351	302	288	419
0.05in² 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.

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	
Aluminium conductors				
95mm² Al	225	185	176	227
185mm² Al	336	274	258	346
300mm² Al	448	364	341	473
Imperial				
Aluminium conductors				
0.0225in² Al	74	63	60	72
0.04in² Al	102	86	83	100
0.06in² Al	130	109	104	127
0.1in² Al	175	146	140	174
0.15in² Al	219	183	174	220
0.2in² Al	261	217	206	265
0.25in² Al	299	248	234	306
0.3in² Al	338	279	264	348
0.4in² Al	401	331	311	419
0.5in² Al	452	372	349	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	65^{o}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	
Aluminium conductors				
95mm² Al	244	196	184	227
185mm² Al	368	295	273	346
300mm² Al	496	398	365	473
Imperial				
Aluminium conductors				
0.0225in² Al	79	65	61	72
0.04in² Al	109	89	84	100
0.06in² Al	139	113	107	127
0.1in² Al	188	154	145	174
0.15in² Al	236	193	181	220
0.2in² Al	284	232	216	265
0.25in² Al	325	266	247	306
0.3in² Al	369	302	280	348
0.4in² Al	441	361	332	419
0.5in² Al	499	410	375	477

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Utilization Factor	50%
Maximum Conductor Temperature	65^{o}C

Ratings based on Crater for MV paper cables.

TABLE E1 win

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E1 win

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E1 win

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	70^{o}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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	70^{o}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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W

Ground Ambient Temperature 12^{o}C

Air Ambient Temperature 12^{o}C

Maximum Conductor Temperature 70^{o}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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E3 sum

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	70^{o}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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE D3 sum

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E4 aut

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E4 aut

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	70^{o}C

Ratings based on Crater for MV paper cables.

TABLE E4 aut

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	
Copper conductors				
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				
Aluminium conductors				
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^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	70^{o}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	
Metric				
Copper conductors				
95mm² Cu	346	286	271	378
120mm² Cu	392	325	308	434
150mm² Cu	441	365	346	492
185mm² Cu.	496	412	390	560
240mm² Cu	573	478	451	655
300mm² Cu	648	541	509	751
Aluminium conductors				
95mm² Al	268	222	211	293
120mm² Al	305	253	240	337
150mm² Al	342	284	269	382
185mm² Al	387	321	304	436
240mm² Al	448	373	352	512
300mm² Al	507	423	398	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	389	308	290	378
120mm² Cu	443	351	329	434
150mm² Cu	500	395	370	492
185mm² Cu.	564	447	418	560
240mm² Cu	654	519	485	655
300mm² Cu	743	590	549	751
Aluminium conductors				
95mm² Al	302	239	225	293
120mm² Al	345	273	256	337
150mm² Al	388	307	288	382
185mm² Al	440	348	326	436
240mm² Al	511	406	379	512
300mm² 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				
Copper conductors				
95mm² Cu	418	320	299	378
120mm² Cu	477	365	341	434
150mm² Cu	538	412	384	492
185mm² Cu.	608	467	434	560
240mm² Cu	706	543	503	655
300mm² Cu	804	618	571	751
Aluminium conductors				
95mm² Al	324	248	232	293
120mm² Al	370	284	265	337
150mm² Al	417	320	298	382
185mm² Al	474	364	338	436
240mm² Al	551	424	393	512
300mm² Al	629	484	447	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	324	276	262	378
120mm² Cu	368	313	298	434
150mm² Cu	413	352	334	492
185mm² Cu.	465	397	376	560
240mm² Cu	537	459	435	655
300mm² Cu	606	519	490	751
Aluminium conductors				
95mm² Al	252	214	204	293
120mm² Al	286	244	232	337
150mm² Al	320	273	259	382
185mm² Al	362	309	293	436
240mm² Al	419	359	340	512
300mm² 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	
Metric				
Copper conductors				
95mm² Cu	369	300	283	378
120mm² Cu	420	342	322	434
150mm² Cu	473	385	361	492
185mm² Cu.	534	435	408	560
240mm² Cu	619	505	472	655
300mm² Cu	703	573	534	751
Aluminium conductors				
95mm² Al	286	233	219	293
120mm² Al	327	266	250	337
150mm² Al	367	299	281	382
185mm² Al	416	339	318	436
240mm² Al	483	395	369	512
300mm² 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				
Copper conductors				
95mm² Cu	399	316	296	378
120mm² Cu	455	360	337	434
150mm² Cu	513	406	379	492
185mm² Cu.	580	460	428	560
240mm² Cu	674	535	497	655
300mm² Cu	766	609	563	751
Aluminium conductors				
95mm² Al	310	245	230	293
120mm² Al	354	280	262	337
150mm² Al	398	316	294	382
185mm² Al	452	359	334	436
240mm² Al	526	418	388	512
300mm² 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	
Metric				
Copper conductors				
95mm² Cu	303	264	252	378
120mm² Cu	344	300	286	434
150mm² Cu	386	337	321	492
185mm² Cu.	434	380	361	560
240mm² Cu	501	439	417	655
300mm² Cu	566	496	470	751
Aluminium conductors				
95mm² Al	235	205	196	293
120mm² Al	268	233	222	337
150mm² Al	300	262	249	382
185mm² Al	339	296	281	436
240mm² Al	392	343	326	512
300mm² Al	443	388	368	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	348	291	274	378
120mm² Cu	397	331	312	434
150mm² Cu	446	373	350	492
185mm² Cu.	504	421	395	560
240mm² Cu	584	488	457	655
300mm² Cu	663	554	517	751
Aluminium conductors				
95mm² Al	270	226	213	293
120mm² Al	308	257	243	337
150mm² Al	347	289	272	382
185mm² Al	393	328	308	436
240mm² Al	456	381	357	512
300mm² 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				
Copper conductors				
95mm² Cu	380	310	290	378
120mm² Cu	433	353	330	434
150mm² Cu	488	398	372	492
185mm² Cu.	551	450	420	560
240mm² Cu	640	523	487	655
300mm² Cu	727	595	551	751
Aluminium conductors				
95mm² Al	294	240	225	293
120mm² Al	336	274	257	337
150mm² Al	378	309	289	382
185mm² Al	429	351	327	436
240mm² Al	500	409	380	512
300mm² Al	569	465	431	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	319	274	261	378
120mm² Cu	362	311	296	434
150mm² Cu	406	349	332	492
185mm² Cu.	457	394	373	560
240mm² Cu	528	455	431	655
300mm² Cu	596	515	487	751
Aluminium conductors				
95mm² Al	248	212	202	293
120mm² Al	281	242	230	337
150mm² Al	315	271	257	382
185mm² Al	356	307	291	436
240mm² Al	412	356	337	512
300mm² Al	467	403	381	588

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	364	299	282	378
120mm² Cu	415	340	320	434
150mm² Cu	467	383	360	492
185mm² Cu.	527	433	406	560
240mm² Cu	611	503	470	655
300mm² Cu	693	570	532	751
Aluminium conductors				
95mm² Al	283	232	219	293
120mm² Al	322	265	249	337
150mm² Al	362	297	279	382
185mm² Al	411	337	317	436
240mm² Al	477	392	367	512
300mm² 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				
Copper conductors				
95mm² Cu	395	316	296	378
120mm² Cu	450	360	337	434
150mm² Cu	508	406	379	492
185mm² Cu.	574	460	428	560
240mm² Cu	666	535	496	655
300mm² Cu	758	608	563	751
Aluminium conductors				
95mm² Al.	306	245	230	293
120mm² Al.	350	280	262	337
150mm² Al.	394	315	294	382
185mm² Al.	447	358	334	436
240mm² Al	520	417	388	512
300mm² 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	
Metric				
Copper conductors				
95mm² Cu	346	287	272	381
120mm² Cu	393	326	309	437
150mm² Cu	439	366	346	494
185mm² Cu.	494	412	389	561
240mm² Cu	568	475	447	655
300mm² Cu	637	533	501	744
Aluminium conductors				
95mm² Al	269	223	212	296
120mm² Al	306	254	240	340
150mm² Al	342	284	269	384
185mm² Al	386	322	304	438
240mm² Al	446	373	351	514
300mm² Al	502	421	395	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	390	310	291	381
120mm² Cu	444	352	331	437
150mm² Cu	499	396	371	494
185mm² Cu.	563	447	418	561
240mm² Cu	650	517	482	655
300mm² Cu	732	582	541	744
Aluminium conductors				
95mm² Al	303	240	226	296
120mm² Al	346	274	257	340
150mm² Al	388	308	288	384
185mm² Al	439	349	326	438
240mm² Al	510	406	378	514
300mm² 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				
Copper conductors				
95mm² Cu	419	322	301	381
120mm² Cu	477	367	342	437
150mm² Cu	537	413	384	494
185mm² Cu.	607	467	433	561
240mm² Cu	702	542	501	655
300mm² Cu	792	611	563	744
Aluminium conductors				
95mm² Al	325	250	234	296
120mm² Al	372	286	266	340
150mm² Al	417	321	299	384
185mm² Al	474	365	339	438
240mm² Al	551	425	393	514
300mm² Al	624	482	444	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	325	277	263	381
120mm² Cu	368	314	298	437
150mm² Cu	412	352	334	494
185mm² Cu.	463	396	375	561
240mm² Cu	532	456	431	655
300mm² Cu	596	511	483	744
Aluminium conductors				
95mm² Al	252	215	205	296
120mm² Al	286	245	232	340
150mm² Al	320	274	260	384
185mm² Al	362	310	293	438
240mm² Al	418	358	339	514
300mm² Al	470	404	381	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.05^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	370	302	284	381
120mm² Cu	421	343	323	437
150mm² Cu	472	386	362	494
185mm² Cu.	535	435	407	561
240mm² Cu	615	503	469	655
300mm² Cu	692	566	527	744
Aluminium conductors				
95mm² Al	287	234	221	296
120mm² Al	327	267	251	340
150mm² Al	367	300	281	384
185mm² Al	416	340	318	438
240mm² Al	483	395	369	514
300mm² 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				
Copper conductors				
95mm² Cu	400	318	298	381
120mm² Cu	456	362	338	437
150mm² Cu	513	407	380	494
185mm² Cu.	579	460	428	561
240mm² Cu	670	533	494	655
300mm² Cu	755	601	555	744
Aluminium conductors				
95mm² Al	311	247	231	296
120mm² Al	355	282	263	340
150mm² Al	399	317	295	384
185mm² Al	452	360	334	438
240mm² Al	526	419	388	514
300mm² 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	
Metric				
Copper conductors				
95mm² Cu	304	265	253	381
120mm² Cu	344	301	287	437
150mm² Cu	385	337	321	494
185mm² Cu.	433	379	360	561
240mm² Cu	497	436	413	655
300mm² Cu	556	488	462	744
Aluminium conductors				
95mm² Al	236	206	197	296
120mm² Al	268	234	223	340
150mm² Al	300	262	249	384
185mm² Al	338	296	281	438
240mm² Al	390	342	325	514
300mm² Al	439	385	365	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Maximum Conductor Temperature	90^{o}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 ***CYCLIC*** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	**CYCLIC CURRENT RATINGS - AMPS**			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
		PVC	Rigiduct	
Metric				
Copper conductors				
95mm² Cu	350	292	276	381
120mm² Cu	397	332	313	437
150mm² Cu	446	373	351	494
185mm² Cu.	503	421	395	561
240mm² Cu	580	486	454	655
300mm² Cu	653	546	509	744
Aluminium conductors				
95mm² Al	271	227	214	296
120mm² Al	309	259	244	340
150mm² Al	347	290	273	384
185mm² Al	393	329	308	438
240mm² Al	456	381	357	514
300mm² 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				
Copper conductors				
95mm² Cu	381	311	292	381
120mm² Cu	434	355	332	437
150mm² Cu	487	399	372	494
185mm² Cu.	550	450	419	561
240mm² Cu	636	521	484	655
300mm² Cu	717	587	543	744
Aluminium conductors				
95mm² Al	296	242	227	296
120mm² Al	337	276	258	340
150mm² Al	379	310	289	384
185mm² Al	430	352	328	438
240mm² Al	499	409	380	514
300mm² 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	
Metric				
Copper conductors				
95mm² Cu	320	275	262	381
120mm² Cu	362	312	296	437
150mm² Cu	405	349	331	494
185mm² Cu.	455	393	373	561
240mm² Cu	522	452	428	655
300mm² Cu	586	507	479	744
Aluminium conductors				
95mm² Al	248	213	203	296
120mm² Al	282	243	231	340
150mm² Al	315	272	258	384
185mm² Al	356	308	291	438
240mm² Al	411	355	336	514
300mm² Al	462	400	378	587

Parameters

Maximum depth of lay	0.8m
Soil Thermal Resistivity (g)	1.1^{o}C m/W
Ground Ambient Temperature	12^{o}C
Air Ambient Temperature	12^{o}C
Maximum Conductor Temperature	90^{o}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	
Metric				
Copper conductors				
95mm² Cu	365	300	283	381
120mm² Cu	415	342	321	437
150mm² Cu	466	384	360	494
185mm² Cu.	526	433	406	561
240mm² Cu	607	500	467	655
300mm² Cu	683	562	524	744
Aluminium conductors				
95mm² Al	284	233	220	296
120mm² Al	323	266	250	340
150mm² Al	363	298	280	384
185mm² Al	411	338	317	438
240mm² Al	476	393	369	514
300mm² 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				
Copper conductors				
95mm² Cu	396	318	297	381
120mm² Cu	451	362	338	437
150mm² Cu	507	407	379	494
185mm² Cu.	573	460	428	561
240mm² Cu	662	532	494	655
300mm² Cu	747	600	555	744
Aluminium conductors				
95mm² Al.	308	247	231	296
120mm² Al.	351	282	263	340
150mm² Al.	394	317	295	384
185mm² Al.	447	359	334	438
240mm² Al	520	418	388	514
300mm² 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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	668	553	517	805
400mm² Copper	758	628	586	935
630mm² Copper	956	795	737	1237
Aluminium conductors				
70mm² Al.	231	190	180	252
95mm² Al.	274	226	214	302
150mm² Al.	350	289	272	397
185mm² Al.	398	328	309	457
240 mm² Al.	461	381	358	538
300mm² Al.	521	431	404	619

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	770	611	564	805
400mm² Copper	878	698	641	935
630mm² Copper	1122	892	812	1237
Aluminium conductors				
70mm² Al.	259	206	193	252
95mm² Al.	308	245	229	302
150mm² Al.	397	315	294	397
185mm² Al.	452	358	333	457
240 mm² Al.	526	418	388	538
300mm² Al.	598	475	439	619

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	855	648	591	805
400mm² Copper	979	742	674	935
630mm² Copper	1260	955	858	1237
Aluminium conductors				
70mm² Al.	283	215	193	252
95mm² Al.	337	256	238	302
150mm² Al.	435	330	306	397
185mm² Al.	497	377	348	457
240 mm² Al.	581	441	405	538
300mm² Al.	662	502	460	619

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	0.9^{o}C m/W
Ground Ambient Temperature	10^{o}C
Air Ambient Temperature	10^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	621	529	497	794
400mm² Copper	703	600	562	922
630mm² Copper	886	757	706	1219
Aluminium conductors				
70mm² Al.	216	183	174	249
95mm² Al.	256	217	206	298
150mm² Al.	326	277	263	344
185mm² Al.	370	315	297	499
240 mm² Al.	429	365	344	531
300mm² Al.	484	413	388	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Air – Free air and shaded	
Maximum Conductor Temperature	90°C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	721	529	548	794
400mm² Copper	822	675	622	922
630mm² Copper	1048	861	786	1219
Aluminium conductors				
70mm² Al.	244	200	189	249
95mm² Al.	290	238	224	298
150mm² Al.	373	306	286	344
185mm² Al.	424	348	325	499
240 mm² Al.	494	406	377	531
300mm² Al.	561	461	427	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.05°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Air – Free air and shaded	
Maximum Conductor Temperature	90°C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	807	636	582	794
400mm² Copper	924	728	663	922
630mm² Copper	1187	934	843	1219
Aluminium conductors				
70mm² Al.	269	212	198	249
95mm² Al.	320	252	235	298
150mm² Al.	413	325	302	344
185mm² Al.	471	371	343	499
240 mm² Al.	550	434	400	531
300mm² Al.	626	494	453	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.05^{O}C m/W
Ground Ambient Temperature	12^{O}C
Air Ambient Temperature	12^{O}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{O}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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 ***SUSTAINED*** Current Ratings

SIZE AND TYPE OF CABLE CONDUCTOR	**SUSTAINED CURRENT RATINGS-AMPS**			
	CABLE IN GROUND	CABLE IN DUCTS		CABLE IN AIR
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	577	504	475	776
400mm² Copper	653	571	537	901
630mm² Copper	821	718	672	1192
Aluminium conductors				
70mm² Al.	202	175	167	243
95mm² Al.	239	208	198	291
150mm² Al.	304	265	252	381
185mm² Al.	345	300	285	439
240 mm² Al.	399	348	329	519
300mm² Al.	450	393	371	597

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	675	570	529	776
400mm² Copper	768	650	600	901
630mm² Copper	978	826	757	1192
Aluminium conductors				
70mm² Al.	230	194	183	243
95mm² Al.	273	231	217	291
150mm² Al.	350	296	277	381
185mm² Al.	398	336	314	439
240 mm² Al.	463	392	365	519
300mm² Al.	525	444	413	597

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	760	620	569	776
400mm² Copper	869	708	647	901
630mm² Copper	1116	907	821	1192
Aluminium conductors				
70mm² Al.	255	208	194	243
95mm² Al.	303	247	231	291
150mm² Al.	390	318	296	381
185mm² Al.	445	363	336	439
240 mm² Al.	519	423	391	519
300mm² Al.	590	482	443	597

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.2^{o}C m/W
Ground Ambient Temperature	15^{o}C
Air Ambient Temperature	15^{o}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{o}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	609	524	493	794
400mm² Copper	690	594	557	922
630mm² Copper	869	748	699	1219
Aluminium conductors				
70mm² Al.	212	182	173	249
95mm² Al.	252	215	205	298
150mm² Al.	321	275	260	390
185mm² Al.	364	312	295	449
240 mm² Al.	421	362	341	531
300mm² Al.	476	409	385	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.1^{O}C m/W
Ground Ambient Temperature	12^{O}C
Air Ambient Temperature	12^{O}C
Air – Free air and shaded	
Maximum Conductor Temperature	90^{O}C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	710	588	545	794
400mm² Copper	809	671	618	922
630mm² Copper	1030	854	781	1219
Aluminium conductors				
70mm² Al.	241	199	188	249
95mm² Al.	286	237	223	298
150mm² Al.	367	304	285	390
185mm² Al.	418	346	323	449
240 mm² Al.	486	403	375	531
300mm² Al.	552	458	425	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Air – Free air and shaded	
Maximum Conductor Temperature	90°C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
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
Metric sizes		PVC	Rigiduct	
Copper conductors				
300mm² Copper	796	634	581	794
400mm² Copper	911	726	662	922
630mm² Copper	1170	931	841	1219
Aluminium conductors				
70mm² Al.	266	212	198	249
95mm² Al.	316	252	235	298
150mm² Al.	407	325	302	390
185mm² Al.	465	370	343	449
240 mm² Al.	543	433	399	531
300mm² Al.	618	493	453	611

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

Parameters

Maximum depth of cover	0.8m
Soil Thermal Resistivity (g)	1.1°C m/W
Ground Ambient Temperature	12°C
Air Ambient Temperature	12°C
Air – Free air and shaded	
Maximum Conductor Temperature	90°C
Utilization factor	50%
Duct size ID (single duct)	150mm
Solid Bonded	
Touching trefoil formation	
Ratings based on Crater for MV polymeric cables	

APPENDIX A

SUPERSEDED DOCUMENTATION

This document supersedes ST:SD8B/3 (Part 2) dated March 2009 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.