

Cable Calculation Report

Project Number 160718
Created by: SuperUser Account
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Project: Test Schedule - new cables & methods

myCableEngineering

Cable Selection

Designation: =N-W3
BS 7671 Low Voltage - fully sized
From: Point 1
To: Point 2

Voltage: 400 V Frequency: 50 Hz
2x1c 95 mm² Cu/XLPE/AWA Length: 65 m Soil resistivity: 100 Ω.m

BS 5467 1997+A3:2008 thermosetting, armoured 600/1000V cable. Single-core copper stranded conductor

Current Capacity

Sizing Method: BS 7671, table 4E3A Design current: 300 A, power factor 0.95 Base Capacity: 850 A
Derated Capacity: 431 A

Calculation Details:

Single core cable, flat spaced 2 diameter apart, three phase.
Free air on ladder, trays, etc. - single core cables
Single core cables on ladder

Ca	Ambient temperature °C = 30, Derating factor = 1.	BS 7671 table 4B1
Cc	Derating factor = 1.	
Cd	Derating factor = 1.	
Cf	Derating factor = 0.725.	
Cg	number of circuits or multicore cables = 3, Derating factor = 0.7.	BS 7671 table 4C1
Ci	Derating factor = 1.	
Cs	Derating factor = 1.	

Impedance and Voltage Drop

$Z_1 = 0.00779 + j0.00563 \Omega$
 $Z_0 = 0.02622 + j0.00840 \Omega$

Max.Specified Voltage Drop: 1 %

Actual Voltage Drop: 2.498 V,
Percentage Voltage Drop: 1.08 %

Fault Rating

Three phase fault	source end: 10/10 kA, 0.95pf, [0.02 s]	load end: 7.23/6.54 kA,	Cable 1s rating = 13.78 kA
Earth fault	0.92pf		Max.duration: three phase = 1.9 s, earth
	source end: 6.8/6.8 kA, 0.95pf, [0.02 s]	load end: 3.84/3.47 kA,	fault = 4.1 s
	0.95pf		

*calculated in accordance with IEC 60909

Comments:

This cable is a fully defined low voltage cable. Other cables in the project depict different types and to different completion levels. This aim is to have a good selection for testing reports.