

Cable Type : Single core cable 1x1000 Kcmil Cu/XLPE/CWS+Lead/HDPE 69 kV
Circuit Configuration : Trefoil Formation
Bonding Method : Single End Bonding
Standard : IEEE 575:2014

A) Induced Voltage at Nominal Condition Single Circuit:

I = the rated current = 371 A

d = mean diameter of metallic sheath = 73.2 mm

f = 60 HZ

$\omega = 2 \times \pi \times f = 2 \times \pi \times 60 = 377 \text{ rad/s}$

$$E = j\omega I (2 \times 10^{-7}) (-1/2 \ln S/d + j \sqrt{3} / 2 \ln 2S/d)$$

= 0.02 V/m at load current 371 A