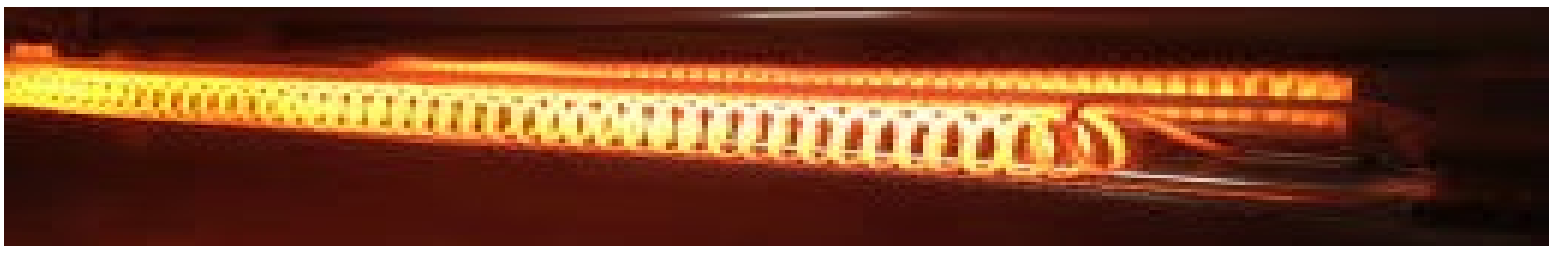
WelTec
Te Whare Wānanga o te Awakairangi

EE3103 3
Resistance, resistivity and resistors workbook

Student name

WORKSHEET 18A



Insulation Resistance (IR).
Work Sheet 18A.
Basic theory and basic calculations.

1. Insulation Resistance (abbreviated to IR in the rest of this work sheet) can be considered as a number of resistors connected in_____ ,consequently, as the length of a cable is increased the IR will _____, and conversely as the length of a cable decreases the IR will _____ .

2. List 5 factors that will affect the IR of a cable:

   _____ _____

   _____ _____

   _____

3. IR is measured with an _____ (the term MEGGER is a trade name and should not be used in exam answers). This type of device tests IR with an average voltage of _____Volts d.c., which is designed to stress the insulation above that normally applied by the mains voltage to see if the insulation will breakdown with the additional stress. The normal unit for values of IR is the _____.

4. A cable which is 50m long has an IR test result of 10MΩ . What is the IR of 200m of the same cable ?.

5. A 1m long length of cable has an IR test result of 150MΩ. What would be the IR of
   a) 0.5m &
   b) 100m
   of the same cable ?.

6. A 100m drum of cable has an IR of 400MΩ. What is the IR of 75m ?.