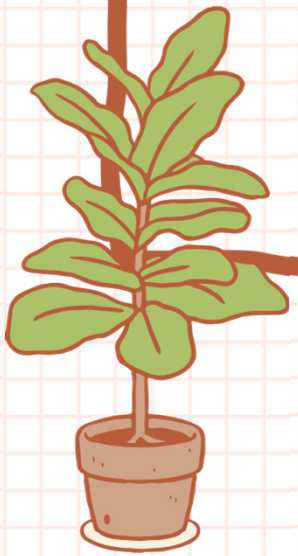
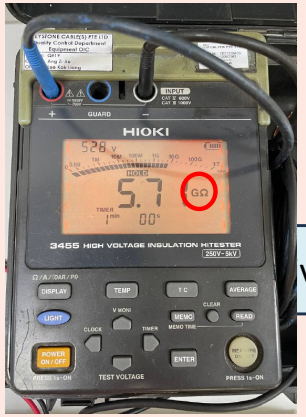


IR Formula

Presented by Keystone-cable

Formula



Example of Result from machine

Do take note that if the units given by the machine is gigaΩ, you have to convert to megaΩ

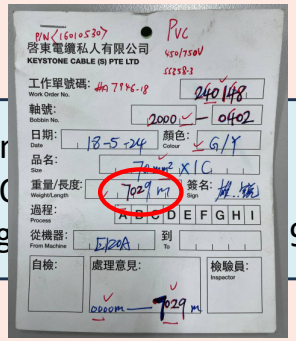
The final reporting unit is megaΩ·km

Result from machine x Length = Final result

Do take note of the its units

Because the final reporting unit for length is in km

100m coil



7029m drum

Example 1

A 200m coil is being test for IR, the result shown from the IR machine is 1.06 MΩ, what is the final reporting result in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

1. Since the units for result given by the machine is in megaΩ, and we know that the final reporting unit is involving megaΩ, we do not have to perform any conversion

2. 1.06 MΩ x (200m÷1000) = 0.212 MΩ·km

Remember?

As mention, since the final reporting unit for length is in km, to make m to km, we have to divide by 1000, because 1km = 1000m

Example 2

A 100m coil is being test for IR, the result shown from the IR machine is 1.27 GΩ, what is the final reporting result in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

1. Since the units for result given by the machine is in gigaΩ, and we know that the final reporting unit is in megaΩ, we have to multiply by 1000

2. (1.27GΩ x 1000) x (100m÷1000) = 127 MΩ·km

To convert gigaΩ to megaΩ, we have to multiply by 1000, because 1 gigaΩ = 1000 megaΩ

Practice 1

Let's say that a 5600m coil underwent IR test, if the IR machine showed a value of 1.65 MΩ, what is your final result you should report in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

Result from machine x Length = Final result

TRY THIS QUESTION NOW!

Practice 1 Answer

Let's say that a 5600m coil underwent IR test, if the IR machine showed a value of 1.65 MΩ, what is your final result you should report in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

The difference between kilom to m is 1000

$$1.65\ \text{MΩ x}\ (5600\text{m} \div 1000) = 9.24\ \text{MΩ·km}$$

Practice 2

Let's say that a 5600m coil underwent IR test, but now, the IR machine showed a value of 1.38 GΩ, what is your final result you should report in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

Result from machine x Length = Final result

TRY THIS QUESTION NOW!

Practice 2 Answer

Let's say that a 5600m coil underwent IR test, but now, the IR machine showed a value of 1.38 GΩ, what is your final result you should report in the units of MΩ·km?

PREFIX	tera	giga	mega	kilo	m (meter)	deci	centi	milli	micro	nano	pico
SYMBOL	T	G	M	k		d	c	m	μ	n	p
NUMBER	10^{12}	10^{9}	10^{6}	10^{3}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-6}	10^{-9}	10^{-12}

The difference between gigaΩ to Ω is 1000

The difference between kilom to m is 1000

$$(1.38\ \text{G}\Omega \times 1000) \times (5600\text{m} \div 1000) = 7728\ \text{M}\Omega\cdot\text{km}$$

THANKYOU