

Volume of ships

1 RT (register ton) = 100 ft³ = 2.832 m³, GRT (gross RT) = total shipping space, net register ton = cargo space of a ship.

GTI (gross tonnage index) = total volume of ship (shell) in m³.

1 ocean ton = 40 ft³ = 1.1327 m³

Great Britain (UK)

1 min (minim) = 0.059194 cm³

1 fluid drachm = 60 min = 3.5516 cm³

1 fl oz (fluid ounce) = 8 fl drachm =
0.028413 l

1 gill = 5 fl oz = 0.14207 l

1 pt (pint) = 4 gills = 0.56826 l

1 qt (quart) = 2 pt = 1.13652 l

1 gal (gallon) = 4 qt = 4.5461 l

1 bbl (barrel) = 36 gal = 163.6 l

Units of dry measure:

1 pk (peck) = 2 gal = 9.0922 l

1 bu (bushel) = 8 gal = 36.369 l

1 qr (quarter) = 8 bu = 290.95 l

United States (US)

1 min (minim) = 0.061612 cm³

1 fluid dram = 60 min = 3.6967 cm³

1 fl oz (fluid ounce) = 8 fl dram = 0.029574
l

1 gill = 4 fl oz = 0.11829 l

1 liq pt (liquid pint) = 4 gills = 0.47318 l

1 liq quart = 2 liq pt = 0.94635 l

1 gal (gallon) = 231 in³ = 4 liq quarts =
3.7854 l

1 liq bbl (liquid barrel) = 119.24 l

1 barrel petroleum¹ = 42 gal = 158.99 l

Units of dry measure:

1 dry pint = 0.55061 dm³

1 dry quart = 2 dry pints = 1.1012 dm³

1 peck = 8 dry quarts = 8.8098 dm³

1 bushel = 4 packs = 35.239 dm³

1 dry bbl (dry barrel) = 7056 in³ = 115.63
dm³

CABLE SPLICING GUIDE

(Duracast joint kit)

| Cable Size(mm) 2-4 core | duracast reference | length | Diameter | Min Cable Diameter | Max Cable Diameter |
|----------------------------|--------------------|--------|----------|--------------------|--------------------|
| 1.5 | P0 | 185 | 32 | 6 | 20 |
| 2.5 | P0 | 185 | 32 | 6 | 20 |
| 4 | P0 | 185 | 32 | 6 | 20 |
| 6 | P1 | 240 | 38 | 9 | 30 |
| 10 | P1 | 240 | 38 | 9 | 30 |
| 16 | P2 | 270 | 44 | 17 | 34 |
| 25 | P2 | 270 | 44 | 17 | 34 |
| 35 | P2.5 | 310 | 60 | 22 | 42 |
| 50 | P2.5 | 310 | 60 | 22 | 42 |
| 70 | P3 | 400 | 68 | 28 | 52 |
| 95 | P3.5 | 432 | 86 | 32 | 56 |
| 120 | P3.5 | 432 | 86 | 32 | 56 |
| 150 | P4 | 550 | 100 | 36 | 65 |
| 185 | P4 | 550 | 100 | 36 | 65 |
| 240 | P5 | 660 | 140 | 48 | 80 |

CONVERSIONS

| | |
|-----------|-----------|
| 1 HP = | 746 Watts |
| 1 kW = | 1.341 HP |
| 1 metre = | 39.37 " |
| 1 " = | 25.4 mm |
| 1 kg = | 2.2 lb |
| 1 lb = | 0.4545 kg |

3-PHASE FORMULAE

- (1) Voltage drop = $1.72 \times I \times R$
 Where I = Line current per phase
 R = Resistance of one core only
 NB: For large 3-core cables carrying high alternating currents, the increased AC resistance due to skin effect must be allowed for

(2) kW = kVA x Power Factor

$$kW = \frac{\text{LINE AMPS} \times \text{LINE VOLTS} \times 1.73 \times \text{POWER FACTOR}}{1000}$$

$$KW = \frac{\text{HORSE POWER} \times 746}{1000 \times \text{EFFICIENCY}}$$

(3) kVA = $\frac{KW}{\text{POWER FACTOR } \theta}$

$$KVA = \frac{\text{LINE AMPS} \times \text{LINE VOLTS} \times 1.732}{1000}$$

$$KVA = \frac{\text{HORSE POWER} \times 746}{1000 \times \text{EFFICIENCY} \times \text{POWER FACTOR}}$$

(4) LINE AMPS = $\frac{KW \times 1000}{\text{LINE VOLTS} \times 1.72 \times \text{POWER FACTOR}}$

$$\text{LINE AMPS} = \frac{kVA \times 1000}{\text{LINE VOLTS} \times 1.732}$$

$$\text{LINE AMPS} = \frac{KW \times 1000}{\text{LINE VOLTS} \times 1.72 \times \text{POWER FACTOR} \times \text{EFFICIENCY}}$$

kW = KiloWatt kVA = KiloVolt Amps Power Factor = Cos θ

RATE CURRENTS OF PVC

INSULATED COPPER CONDUCTORS

| Rate area of conductor mm ² | Safe current carrying capacity (A) |
|--|------------------------------------|
| 0.5 | 5 |
| 0.75 | 8 |
| 1.0 | 10 |
| 1.5 | 15 |
| 2.5 | 20 |
| 4.0 | 27 |

| Conductor | CURRENT CARRYING CAPACITY AND ASSOCIATED VOLTAGE DROP OF CONDUCTORS | | | | | | | |
|-----------------|--|-----------------|---|--------|--|------------------|---|--------|
| C.S.A | 60°C rubber isolated | | | | 90°C rubber insulated | | | |
| | 1 two-core cable " or 2 single core cables touching | | 1 three-core four-core or five-core cable | | 1 two-core cable" or 2 single-core cables touching | | 1 three-core four-core or five-core cable | |
| mm ² | d.c. or single phase a.c. | | three phase a.c. | | d.c. or single phase a.c. | | three phase a.c. | |
| | A | mV/A/m | A | mV/A/m | A | mV/A/m | A | mV/A/m |
| 4 | 30 | 12 | 26 | 10 | 42 | 13.2 | 37 | 11 |
| 6 | 39 | 7.8 | 34 | 6.7 | 55 | 8.5 | 49 | 7.3 |
| 10 | 51 | 4.6 | 47 | 4.0 | 76 | 5.1 | 66 | 4.3 |
| 16 | 73 | 2.9 | 63 | 2.5 | 103 | 3.2 | 59 | 2.7 |
| 25 | 97 | 1.8d 1.85a | 83 | 1.55 | 136 | 2.03d 2.04a | 119 | 1.73 |
| 35 | 140 | 1.31d 1.32a | 102 | 1.15 | 200 | 1.42d 1.46a | 146 | 1.23 |
| 50 | 175 | 0.91d 0.93a | 124 | 0.84 | 250 | 1.00d 1.02a | 177 | 0.93 |
| 70 | 216 | 0.64d 0.67a | 158 | 0.58 | 310 | 0.71d 0.73a | 225 | 0.64 |
| 95 | 258 | 0.49d 0.53a | 192 | 0.44 | 369 | 0.54d 0.57a | 273 | 0.49 |
| 120 | 302 | 0.38d 0.43a | 222 | 0.36 | 432 | 0.42d 0.46a | 316 | 0.39 |
| 150 | 347 | 0.31d 0.36a | 255 | 0.30 | 497 | 0.34d 0.39a | 363 | 0.32 |
| 185 | 394 | 0.25d 32a | 291 | 0.26 | 564 | 0.27d 0.33a | 414 | 0.27 |
| 240 | 471 | 0.19d 0.27a | 343 | 0.21 | 673 | 0.21d 0.28a | 487 | 0.23 |
| 300 | 541 | 0.15d 0.24a | 394 | 0.185 | 773 | 0.167d 0.25a | 560 | 0.195 |
| 400 | 644 | 0.115d 0.21a | - | - | 885 | 1.27d 0.22a | - | - |
| 500 | 738 | 0.090d 0.20a | - | - | 1017 | 0.100d 0.20a | - | - |
| 630 | 861 | 0.68d 0.185a | - | - | 1190 | 0.074d 0.190a | - | - |

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| 500 | 738 | 0.090d 0.20a | - | - | 1017 | 0.100d 0.20a | - | - |
| 630 | 861 | 0.68d 0.185a | - | - | 1190 | 0.074d 0.190a | - | - |