

GENERAL INFORMATION

SHORT- CIRCUIT CURRENTS & CORRECTION FACTORS

Correction factors for current rating

Correction factors for ambient air temperatures

| Max cond temp ^{°c} | ambient air temperature ^{°c} | | | | | | | | |
|-----------------------------|---------------------------------------|------|------|------|------|------|-------|------|------|
| | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 90 | 1.19 | 1.14 | 1.10 | 1.05 | 1.00 | 0.96 | 0.90 | 0.84 | 0.78 |
| 85 | 1.20 | 1.15 | 1.11 | 1.05 | 1.00 | 0.94 | 89.00 | 0.83 | 0.77 |
| 70 | 1.27 | 1.22 | 1.15 | 1.08 | 1.00 | 0.92 | 0.82 | 0.72 | 0.68 |

Correction factors for ambient ground^{°c}

| Max cond temp ^{°c} | ambient ground temperature ^{°c} | | | | | | | | |
|-----------------------------|--|------|------|------|------|------|------|------|------|
| | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| 90 | 1.17 | 1.12 | 1.08 | 1.04 | 1.00 | 0.96 | 0.90 | 0.85 | 0.80 |
| 85 | 1.25 | 1.15 | 1.07 | 1.03 | 1.00 | 0.95 | 0.89 | 0.84 | 0.78 |
| 70 | 1.32 | 1.22 | 1.13 | 1.07 | 1.00 | 0.93 | 0.85 | 0.76 | 0.65 |

Correction factors for depths of laying

| for direct buried cables | | | |
|--------------------------|---|------|-------------------|
| depth of laying m | single core cables | | three core cables |
| | nominal conductors size mm ² | | |
| | ≤185 | >185 | |
| 0.5 | 1.04 | 1.06 | 1.04 |
| 0.6 | 1.02 | 1.04 | 1.03 |
| 0.8 | 1.00 | 1.00 | 1.00 |
| 1 | 0.98 | 0.97 | 0.98 |
| 1.25 | 0.96 | 0.95 | 0.96 |
| 1.5 | 0.95 | 0.93 | 0.95 |
| 1.75 | 0.94 | 0.91 | 0.94 |
| 2 | 0.93 | 0.9 | 0.93 |
| 2.5 | 0.91 | 0.88 | 0.91 |
| 3 | 0.9 | 0.86 | 0.9 |

| for cables in ducts | | | |
|---------------------|---|------|-------------------|
| depth of laying m | single core cables | | three core cables |
| | nominal conductors size mm ² | | |
| | ≤185 | >185 | |
| 0.5 | 1.04 | 1.05 | 1.03 |
| 0.6 | 1.02 | 1.03 | 1.02 |
| 0.8 | 1.00 | 1.00 | 1.00 |
| 1 | 0.98 | 0.96 | 0.99 |
| 1.25 | 0.96 | 0.95 | 0.97 |
| 1.5 | 0.95 | 0.93 | 0.96 |
| 1.75 | 0.94 | 0.92 | 0.95 |
| 2 | 0.93 | 0.91 | 0.94 |
| 2.5 | 0.91 | 0.89 | 0.93 |
| 3 | 0.90 | 0.88 | 0.92 |


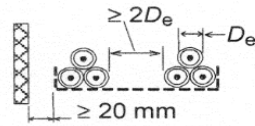
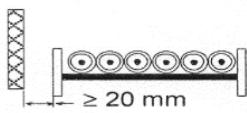
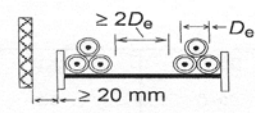
Correction factors for soil thermal resistivities direct buried

| | soil thrmal resistities ^{°c.m/w} | | | | | | | | |
|-------------|---|------|------|------|------|------|------|------|------|
| | 0.7 | 0.8 | 0.9 | 1 | 1.2 | 1.5 | 2 | 2.5 | 3 |
| single core | 1.21 | 1.15 | 1.11 | 1.06 | 1.00 | 0.91 | 0.80 | 0.73 | 0.67 |
| three core | 1.15 | 1.11 | 1.07 | 1.05 | 1.00 | 0.91 | 0.82 | 0.75 | 0.70 |

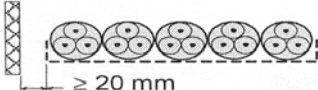
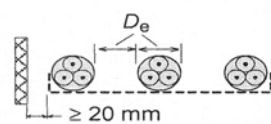
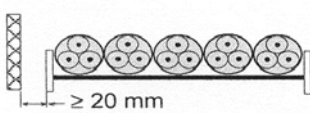
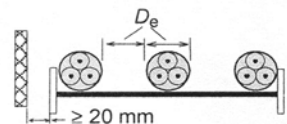
Correction factors for soil thermal resistivities in ducts

| | soil thrmal resistities ^{°c.m/w} | | | | | | | | |
|-------------|---|------|------|------|------|------|------|------|------|
| | 0.7 | 0.8 | 0.9 | 1 | 1.2 | 1.5 | 2 | 2.5 | 3 |
| single core | 1.17 | 1.13 | 1.10 | 1.08 | 1.00 | 0.95 | 0.87 | 0.80 | 0.74 |
| three core | 1.10 | 1.08 | 1.06 | 1.04 | 1.00 | 0.95 | 0.89 | 0.84 | 0.79 |

Reduction factors of current rating for groups of single-core cables in free air

| Method of installation | Flat formation | | | Trefoil formation | | | |
|------------------------------|---|------|------|---|------|------|------|
| Perforated trays |  | | |  | | | |
| | No of groups | | | No of groups | | | |
| | No of trays | 1 | 2 | 3 | 1 | 2 | 3 |
| | 1 | 0.98 | 0.91 | 0.87 | 1.00 | 0.98 | 0.96 |
| 2 | 0.96 | 0.87 | 0.81 | 0.97 | 0.93 | 0.89 | |
| 3 | 0.95 | 0.85 | 0.78 | 0.96 | 0.92 | 0.86 | |
| Lader supports, cleats, etc, |  | | |  | | | |
| | No of groups | | | No of groups | | | |
| | No of trays | 1 | 2 | 3 | 1 | 2 | 3 |
| | 1 | 1.00 | 0.97 | 0.96 | 1.00 | 1.00 | 1.00 |
| 2 | 0.98 | 0.93 | 0.89 | 0.97 | 0.95 | 0.93 | |
| 3 | 0.97 | 0.90 | 0.86 | 0.96 | 0.94 | 0.90 | |

Reduction factors of current rating for groups of more than one multi-core cables in free air

| Method of installation | Touching | | | Spaced | | | |
|------------------------------|---|------|------|---|------|------|---|
| Perforated trays |  | | |  | | | |
| | No of trays | | | No of trays | | | |
| | No of cables | 1 | 2 | 3 | 1 | 2 | 3 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0.88 | 0.87 | 0.86 | 1 | 0.99 | 0.98 | |
| 3 | 0.82 | 0.8 | 0.79 | 0.98 | 0.96 | 0.95 | |
| 4 | 0.79 | 0.77 | 0.76 | 0.95 | 0.92 | 0.91 | |
| 6 | 0.76 | 0.73 | 0.71 | 0.91 | 0.87 | 0.85 | |
| 9 | 0.73 | 0.68 | 0.66 | | | | |
| Lader supports, cleats, etc, |  | | |  | | | |
| | No of trays | | | No of trays | | | |
| | No of cables | 1 | 2 | 3 | 1 | 2 | 3 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 0.87 | 0.86 | 0.85 | 1 | 0.99 | 0.98 | |
| 3 | 0.82 | 0.8 | 0.79 | 1 | 0.98 | 0.97 | |
| 4 | 0.80 | 0.78 | 0.76 | 1.00 | 0.97 | 0.96 | |
| 6 | 0.79 | 0.76 | 0.73 | 1.00 | 0.96 | 0.93 | |
| 9 | 0.78 | 0.73 | 0.70 | | | | |

**Correction factors for groups of three-core cables
in horizontal formation laid direct in the ground**

| number of cables in group | space between cable centers mm | | | | | | |
|---------------------------|--------------------------------|--------|--------|--------|--------|--------|--------|
| | Touching | 150 mm | 200 mm | 300 mm | 400 mm | 450 mm | 600 mm |
| 2 | 0.80 | 0.85 | 0.86 | 0.88 | 0.90 | 0.91 | 0.92 |
| 3 | 0.69 | 0.75 | 0.77 | 0.80 | 0.82 | 0.83 | 0.86 |
| 4 | 0.62 | 0.70 | 0.72 | 0.76 | 0.79 | 0.80 | 0.83 |
| 5 | 0.57 | 0.65 | 0.68 | 0.72 | 0.76 | 0.77 | 0.81 |
| 6 | 0.54 | 0.62 | 0.65 | 0.70 | 0.74 | 0.76 | 0.80 |
| 7 | 0.51 | 0.60 | 0.63 | 0.68 | 0.72 | 0.74 | 0.78 |
| 8 | 0.49 | 0.58 | 0.61 | 0.66 | 0.71 | 0.73 | 0.77 |
| 9 | 0.47 | 0.57 | 0.60 | 0.65 | 0.70 | 0.72 | 0.76 |

**Correction factors for groups of three-core cables
in single way ducts in horizontal formation**

| number of cables in group | space between cable centers mm | | | | | | |
|---------------------------|--------------------------------|------|------|------|------|------|------|
| | Touching | 150 | 200 | 300 | 400 | 450 | 600 |
| 2 | 0.85 | 0.87 | 0.88 | 0.90 | 0.92 | 0.93 | 0.94 |
| 3 | 0.75 | 0.79 | 0.80 | 0.83 | 0.85 | 0.86 | 0.88 |
| 4 | 0.69 | 0.74 | 0.75 | 0.79 | 0.82 | 0.83 | 0.86 |
| 5 | 0.65 | 0.70 | 0.72 | 0.76 | 0.79 | 0.80 | 0.84 |
| 6 | 0.62 | 0.67 | 0.69 | 0.73 | 0.77 | 0.79 | 0.83 |
| 7 | 0.59 | 0.65 | 0.67 | 0.72 | 0.76 | 0.78 | 0.82 |
| 8 | 0.57 | 0.63 | 0.65 | 0.70 | 0.75 | 0.77 | 0.81 |
| 9 | 0.55 | 0.62 | 0.64 | 0.69 | 0.74 | 0.76 | 0.80 |

**Correction factors for groups of three-phase circuits
of single-core cables laid direct in the ground**

| number of cables in group | space between cable centers mm | | | | | | |
|---------------------------|--------------------------------|------|------|------|------|------|------|
| | Touching | 150 | 200 | 300 | 400 | 450 | 600 |
| 2 | 0.73 | 0.81 | 0.83 | 0.86 | 0.88 | 0.89 | 0.90 |
| 3 | 0.60 | 0.70 | 0.73 | 0.76 | 0.79 | 0.80 | 0.83 |
| 4 | 0.54 | 0.65 | 0.68 | 0.72 | 0.75 | 0.76 | 0.80 |
| 5 | 0.49 | 0.60 | 0.63 | 0.68 | 0.72 | 0.74 | 0.78 |
| 6 | 0.46 | 0.57 | 0.61 | 0.66 | 0.70 | 0.72 | 0.76 |
| 7 | 0.43 | 0.54 | 0.58 | 0.63 | 0.68 | 0.70 | 0.75 |
| 8 | 0.41 | 0.53 | 0.57 | 0.62 | 0.67 | 0.69 | 0.74 |
| 9 | 0.39 | 0.51 | 0.55 | 0.61 | 0.66 | 0.68 | 0.73 |

**Correction factors for groups of three-phase circuits
of single-core cables in single way ducts**

| number of cables in group | space between cable centers mm | | | | | | |
|---------------------------|--------------------------------|------|------|------|------|------|------|
| | Touching | 150 | 200 | 300 | 400 | 450 | 600 |
| 2 | 0.78 | 0.83 | 0.85 | 0.87 | 0.89 | 0.90 | 0.91 |
| 3 | 0.66 | 0.73 | 0.75 | 0.78 | 0.81 | 0.82 | 0.85 |
| 4 | 0.59 | 0.67 | 0.70 | 0.74 | 0.77 | 0.78 | 0.82 |
| 5 | 0.55 | 0.63 | 0.66 | 0.70 | 0.74 | 0.76 | 0.80 |
| 6 | 0.51 | 0.61 | 0.64 | 0.68 | 0.72 | 0.74 | 0.78 |
| 7 | 0.48 | 0.58 | 0.61 | 0.66 | 0.71 | 0.73 | 0.77 |
| 8 | 0.46 | 0.57 | 0.60 | 0.65 | 0.70 | 0.72 | 0.76 |
| 9 | 0.44 | 0.55 | 0.58 | 0.64 | 0.69 | 0.71 | 0.76 |