

Insulect Class C MV Surge Arresters are designed to provide optimum protection for transformers and other medium voltage equipment against over voltage transients caused by lightning and switch surge events.



Made for extreme environments

Designed to exceed the demands of the most extreme environments and service conditions.



Compact and lightweight

Polymer surge arresters ensure ease of handling, and compact site installations.



20 year history in Australia

Widely used throughout Australia for their reliable performance.

KEY COMPONENT MATERIALS

VARISTOR BLOCKS

Metal oxide

BLOCK ENCLOSURE

Epoxy impregnated glass fibre filaments

EXTERNAL HOUSING

Moulded polymer

METAL PARTS...??

...

Polymer surge arrester construction offers tangible benefits over traditional porcelain designs.

SAFETY

Polymer surge arresters are superior over porcelain with regards to improved safety under failure and fire-retardancy. Unlike porcelain, the polymer housing will not shatter or scatter pieces when damaged and they are lighter making for easier, safer installation.

DURABILITY

High impact resistance of polymer housing significantly reduces housing damage losses typically associated with porcelain housing during transport and installation at site.

COMPACT

The compact design of polymer housing arresters allows for flexibility in installation space and ease of handling during installation.



See over for **Accessories** →

Surge Arresters
Optional Accessories



Bird/Wildlife Cap

UV stabilized PVC construction.



Leads

Available in various cable sizes and terminal lugs according to customer specification.



Steel Mounting Bracket

Available in galvanised steel or Gr.316 stainless steel.



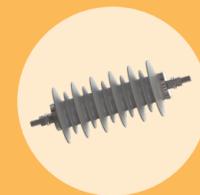
Insulated Mounting Bracket

UV stabilised glass-filled polyester construction.



Earth Lead Disconnect

Visual indicator for use in resonant earthing system. Provides visual and positive disconnection.



Custom Components

For more details on our range including customised components, contact our Switchgear team.

Insulect Australia

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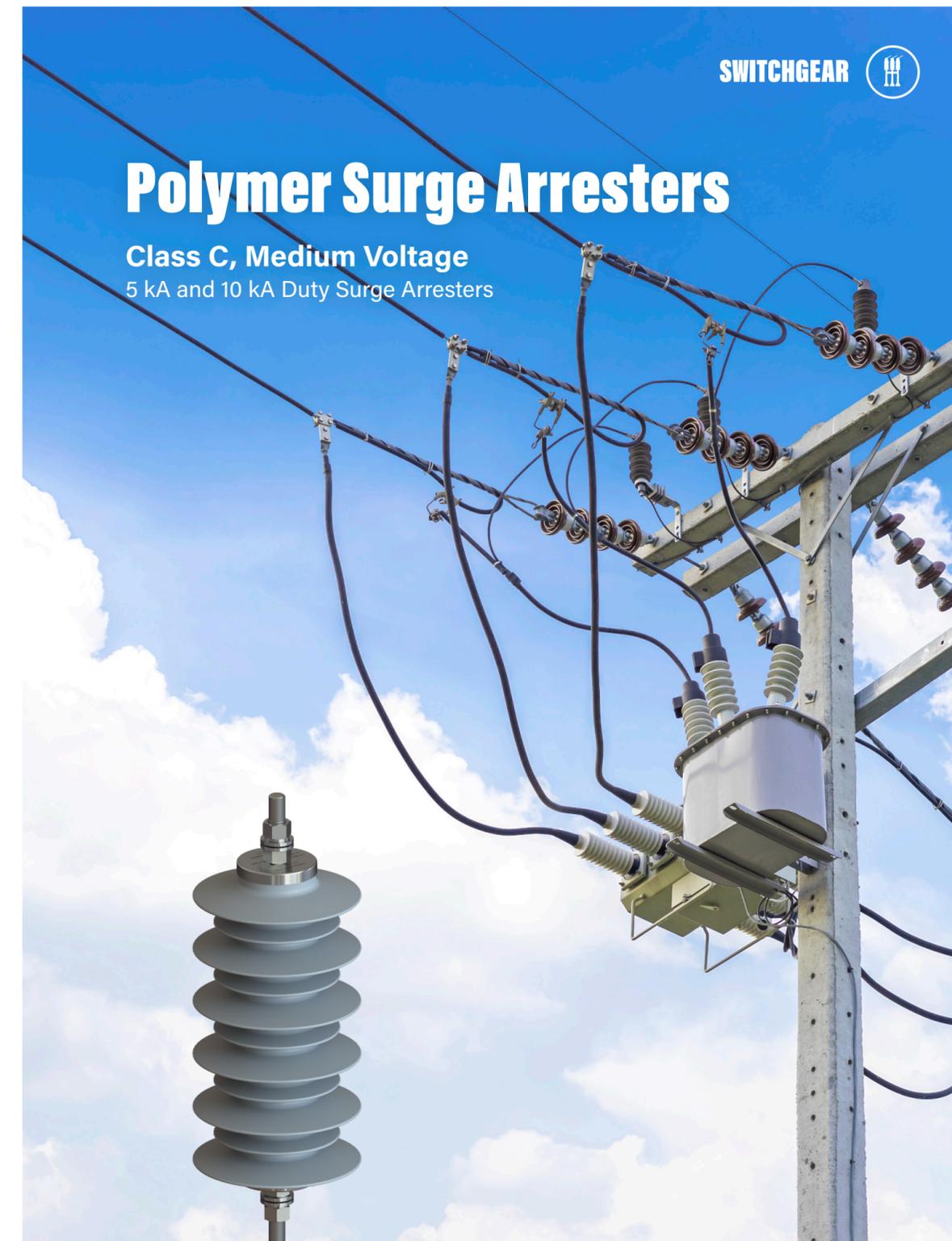


DISCLAIMER: The information in this document is believed to be correct at the time of publication. The user is responsible for determining whether the product is fit for a particular purpose and suitable for user's method of use or application. No reliance may be placed on any such information or data without first contacting Insulect Australia to clarify individual user requirements.



Polymer Surge Arresters

Class C, Medium Voltage
5 kA and 10 kA Duty Surge Arresters



Normal Duty (5 kA) Polymer Surge Arrester

| Type | Rated Voltage | MCOV | Range of critical operating voltage V _{1mA} (DC) | | TOV | | Residual voltage at lightning impulse current (8/20μs) | | | | Residual voltage at switching impulse current (30/75μs) | |
|------------|---------------|-------|---|-------|-------|--------|--|--------|--------|--------|---|--------|
| | | | | | 1 sec | 10 sec | | | | | | |
| | kV | kV ms | Min | Max | kV | kV | 2.5 kA | 5 kA | 10 kA | 20 kA | 250 A | 500 A |
| CA03/05.0D | 3 | 2.55 | 4.80 | 5.40 | 3.24 | 3.03 | 9.91 | 10.61 | 11.58 | 12.83 | 6.80 | 7.00 |
| CA06/05.0D | 6 | 5.10 | 9.60 | 10.80 | 6.48 | 6.06 | 18.82 | 20.22 | 22.17 | 24.65 | 13.60 | 14.00 |
| CA00/05.0D | 9 | 7.65 | 14.40 | 16.20 | 9.72 | 9.09 | 27.73 | 29.84 | 32.75 | 36.48 | 20.40 | 21.00 |
| CA10/05.0D | 10 | 8.50 | 16.00 | 18.50 | 10.80 | 10.10 | 31.53 | 33.93 | 37.26 | 41.52 | 22.70 | 23.30 |
| CA12/05.0D | 12 | 10.20 | 19.20 | 21.60 | 12.96 | 12.12 | 36.64 | 39.45 | 43.34 | 48.30 | 27.20 | 28.00 |
| CA15/05.0D | 15 | 12.75 | 24.00 | 27.00 | 16.20 | 15.15 | 45.55 | 49.06 | 53.92 | 60.13 | 34.00 | 35.00 |
| CA18/05.0D | 18 | 15.30 | 28.80 | 32.40 | 19.44 | 18.18 | 54.46 | 58.67 | 64.50 | 71.96 | 40.80 | 42.00 |
| CA21/05.0D | 21 | 17.85 | 33.60 | 37.80 | 22.68 | 21.21 | 63.37 | 68.28 | 75.09 | 83.78 | 47.60 | 49.00 |
| CA24/05.0D | 24 | 20.40 | 38.40 | 43.20 | 25.92 | 24.24 | 72.28 | 77.90 | 85.67 | 95.61 | 54.40 | 56.00 |
| CA27/05.0D | 27 | 22.95 | 43.20 | 48.60 | 29.16 | 27.27 | 81.19 | 87.51 | 96.26 | 107.43 | 61.20 | 63.00 |
| CA30/05.0D | 30 | 25.50 | 48.00 | 54.00 | 32.40 | 30.30 | 90.10 | 97.12 | 106.84 | 119.26 | 68.00 | 70.00 |
| CA33/05.0D | 33 | 28.05 | 52.80 | 59.40 | 35.64 | 33.33 | 99.01 | 106.73 | 117.42 | 131.09 | 74.80 | 77.00 |
| CA36/05.0D | 36 | 30.60 | 57.60 | 64.80 | 38.88 | 36.36 | 107.92 | 116.34 | 128.01 | 142.91 | 81.60 | 84.00 |
| CA39/05.0D | 39 | 33.15 | 62.40 | 70.20 | 42.12 | 39.39 | 116.83 | 125.96 | 138.59 | 154.74 | 88.40 | 91.00 |
| CA42/05.0D | 42 | 35.70 | 67.20 | 75.60 | 45.36 | 42.42 | 125.74 | 135.57 | 149.18 | 166.56 | 95.20 | 98.00 |
| CA45/05.0D | 45 | 38.25 | 72.00 | 81.00 | 48.60 | 45.45 | 134.65 | 145.18 | 159.76 | 178.39 | 102.00 | 105.00 |
| CA48/05.0D | 48 | 40.80 | 76.80 | 86.40 | 51.84 | 48.48 | 143.56 | 154.79 | 170.34 | 190.22 | 108.80 | 112.00 |
| CA51/05.0D | 51 | 43.35 | 81.60 | 91.80 | 55.08 | 51.51 | 152.47 | 164.40 | 180.93 | 202.04 | 115.60 | 119.00 |
| CA54/05.0D | 54 | 45.90 | 88.40 | 97.20 | 58.32 | 54.54 | 161.38 | 174.02 | 191.51 | 213.87 | 122.40 | 126.00 |

| Type | Rated Voltage | Height | Weight | Creep | Insulation of arrester housing | | |
|------------|---------------|--------|--------|-------|--------------------------------|-------------------------------|-------------------------|
| | | | | | PF Withstand Voltage (Dry) kV | PF Withstand Voltage (Wet) kV | LI Withstand Voltage kV |
| | kV | mm | kg | mm | | | |
| CA03/05.0D | 3 | 112.0 | 2.70 | 323 | 11 | 9 | 14 |
| CA06/05.0D | 6 | 112.0 | 2.74 | 323 | 20 | 18 | 26 |
| CA00/05.0D | 9 | 162.5 | 3.06 | 442 | 30 | 26 | 39 |
| CA10/05.0D | 10 | 162.5 | 3.08 | 443 | 34 | 30 | 44 |
| CA12/05.0D | 12 | 162.5 | 3.10 | 442 | 39 | 35 | 51 |
| CA15/05.0D | 15 | 243.0 | 3.72 | 680 | 49 | 43 | 64 |
| CA18/05.0D | 18 | 243.0 | 3.76 | 680 | 58 | 52 | 76 |
| CA21/05.0D | 21 | 325.0 | 4.28 | 884 | 68 | 60 | 89 |
| CA24/05.0D | 24 | 325.0 | 4.32 | 884 | 77 | 69 | 101 |
| CA27/05.0D | 27 | 405.5 | 4.86 | 1122 | 87 | 77 | 114 |
| CA30/05.0D | 30 | 405.5 | 4.90 | 1122 | 96 | 85 | 126 |
| CA33/05.0D | 33 | 486.0 | 5.42 | 1360 | 106 | 94 | 139 |
| CA36/05.0D | 36 | 486.0 | 5.46 | 1360 | 115 | 102 | 151 |
| CA39/05.0D | 39 | 568.0 | 5.98 | 1564 | 125 | 111 | 164 |
| CA42/05.0D | 42 | 568.0 | 6.02 | 1564 | 134 | 119 | 176 |
| CA45/05.0D | 45 | 648.5 | 6.64 | 1802 | 144 | 128 | 189 |
| CA48/05.0D | 48 | 648.5 | 6.68 | 1802 | 153 | 136 | 201 |
| CA51/05.0D | 51 | 729.0 | 7.12 | 2040 | 163 | 145 | 214 |
| CA54/05.0D | 54 | 729.0 | 7.16 | 2040 | 172 | 153 | 226 |

Outdoor Distribution



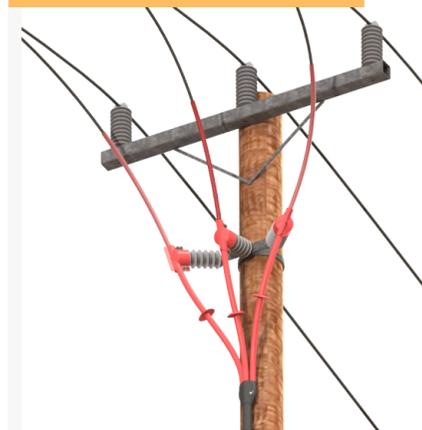
Application: Insulect Surge Arrestors fitted to Insulect gas-insulated load break switch.

Heavy Duty (10 kA) Polymer Surge Arrester

| Type | Rated Voltage | MCOV | Range of critical operating voltage V _{1mA} (DC) | | TOV | | Residual voltage at lightning impulse current (8/20μs) | | | | Residual voltage at switching impulse current (30/75μs) | |
|------------|---------------|-------|---|-------|-------|--------|--|--------|--------|--------|---|--------|
| | | | | | 1 sec | 10 sec | | | | | | |
| | kV | kV ms | Min | Max | kV | kV | 2.5 kA | 5 kA | 10 kA | 20 kA | 250 A | 500 A |
| CA03/10.1D | 3 | 2.55 | 4.80 | 5.40 | 3.39 | 3.18 | 9.07 | 9.88 | 10.91 | 12.37 | 6.80 | 7.00 |
| CA06/10.1D | 6 | 5.10 | 9.60 | 10.80 | 6.78 | 6.36 | 18.14 | 19.76 | 21.82 | 24.73 | 13.60 | 14.00 |
| CA09/10.1D | 9 | 7.65 | 14.40 | 16.20 | 10.17 | 9.54 | 27.22 | 29.65 | 32.72 | 37.10 | 20.30 | 21.00 |
| CA10/10.1D | 10 | 8.50 | 16.00 | 18.50 | 11.30 | 10.60 | 31.08 | 33.86 | 37.37 | 42.37 | 22.60 | 23.30 |
| CA12/10.1D | 12 | 10.20 | 19.20 | 21.60 | 13.56 | 12.72 | 36.29 | 39.53 | 43.63 | 49.46 | 27.10 | 27.90 |
| CA15/10.1D | 15 | 12.75 | 24.00 | 27.00 | 16.95 | 15.90 | 45.36 | 49.41 | 54.54 | 61.83 | 33.90 | 34.90 |
| CA18/10.1D | 18 | 15.30 | 28.80 | 32.40 | 20.34 | 19.08 | 54.43 | 59.29 | 65.45 | 74.20 | 40.70 | 41.90 |
| CA21/10.1D | 21 | 17.85 | 33.60 | 37.80 | 23.73 | 22.26 | 63.50 | 69.17 | 76.36 | 86.56 | 47.50 | 48.90 |
| CA24/10.1D | 24 | 20.40 | 38.40 | 43.20 | 27.12 | 25.44 | 72.58 | 79.06 | 87.26 | 98.93 | 54.20 | 55.90 |
| CA27/10.1D | 27 | 22.95 | 43.20 | 48.60 | 30.51 | 28.62 | 81.65 | 88.94 | 98.17 | 111.29 | 61.00 | 62.90 |
| CA30/10.1D | 30 | 25.50 | 48.00 | 54.00 | 33.90 | 31.80 | 90.72 | 98.82 | 109.08 | 123.66 | 67.80 | 69.80 |
| CA33/10.1D | 33 | 28.05 | 52.80 | 59.40 | 37.29 | 34.98 | 99.79 | 108.70 | 119.99 | 136.03 | 74.60 | 76.80 |
| CA36/10.1D | 36 | 30.60 | 57.60 | 64.80 | 40.68 | 38.16 | 100.86 | 118.58 | 130.90 | 148.39 | 81.40 | 83.80 |
| CA39/10.1D | 39 | 33.15 | 62.40 | 70.20 | 44.07 | 41.34 | 117.94 | 128.47 | 141.80 | 160.76 | 88.10 | 90.80 |
| CA42/10.1D | 42 | 35.70 | 67.20 | 75.60 | 47.46 | 44.52 | 127.01 | 138.35 | 152.71 | 173.12 | 94.90 | 97.80 |
| CA45/10.1D | 45 | 38.25 | 72.00 | 81.00 | 50.85 | 47.70 | 136.08 | 148.23 | 163.62 | 185.49 | 101.70 | 104.80 |
| CA48/10.1D | 48 | 40.80 | 76.80 | 86.40 | 54.24 | 50.88 | 145.15 | 158.11 | 174.53 | 197.86 | 108.50 | 111.70 |
| CA51/10.1D | 51 | 43.35 | 81.60 | 91.80 | 57.63 | 54.06 | 154.22 | 167.99 | 185.44 | 210.22 | 115.30 | 118.70 |
| CA54/10.1D | 54 | 45.90 | 86.40 | 97.20 | 61.02 | 57.24 | 163.30 | 177.88 | 196.34 | 222.59 | 122.00 | 125.70 |

| Type | Rated Voltage | Height | Weight | Creep | Insulation of arrester housing | | |
|------------|---------------|--------|--------|-------|--------------------------------|-------------------------------|-------------------------|
| | | | | | PF Withstand Voltage (Dry) kV | PF Withstand Voltage (Wet) kV | LI Withstand Voltage kV |
| | kV | mm | kg | mm | | | |
| CA03/10.1D | 3 | 112.0 | 3.02 | 323 | 10 | 9 | 13 |
| CA06/10.1D | 6 | 112.0 | 3.10 | 323 | 20 | 17 | 26 |
| CA09/10.1D | 9 | 162.5 | 3.52 | 442 | 29 | 26 | 39 |
| CA10/10.1D | 10 | 162.5 | 3.54 | 443 | 34 | 30 | 44 |
| CA12/10.1D | 12 | 162.5 | 3.60 | 442 | 39 | 35 | 51 |
| CA15/10.1D | 15 | 243.0 | 4.45 | 680 | 49 | 43 | 64 |
| CA18/10.1D | 18 | 243.0 | 4.53 | 680 | 59 | 52 | 77 |
| CA21/10.1D | 21 | 325.0 | 5.29 | 884 | 68 | 61 | 90 |
| CA24/10.1D | 24 | 325.0 | 5.37 | 884 | 78 | 70 | 103 |
| CA27/10.1D | 27 | 405.5 | 6.12 | 1122 | 88 | 78 | 116 |
| CA30/10.1D | 30 | 405.5 | 6.20 | 1122 | 98 | 87 | 128 |
| CA33/10.1D | 33 | 486.0 | 6.93 | 1360 | 108 | 96 | 141 |
| CA36/10.1D | 36 | 486.0 | 7.01 | 1360 | 117 | 104 | 154 |
| CA39/10.1D | 39 | 568.0 | 7.77 | 1564 | 127 | 113 | 167 |
| CA42/10.1D | 42 | 568.0 | 7.85 | 1564 | 137 | 122 | 180 |
| CA45/10.1D | 45 | 648.5 | 8.70 | 1802 | 147 | 130 | 193 |
| CA48/10.1D | 48 | 648.5 | 8.78 | 1802 | 157 | 139 | 206 |
| CA51/10.1D | 51 | 729.0 | 9.41 | 2040 | 166 | 148 | 218 |
| CA54/10.1D | 54 | 729.0 | 9.49 | 2040 | 176 | 157 | 231 |

Outdoor Distribution



Application: Insulect Surge Arrestors fitted on Underground to Overhead (UGOH) Transition Pole

Field of application

Protection of transformers, switchgear and transmission lines against atmospheric and switching over-voltages. Selection of arresters has to be carried out according to IEC 60099-4/2004 and ANSI/IEEE C62.11/2005.

Normal operating conditions

Ambient temperature: -50°C to +55°C
 Design altitude: max 1000m
 Rated frequency: 15 Hz to 62 Hz
 (different operating conditions available on inquiry)

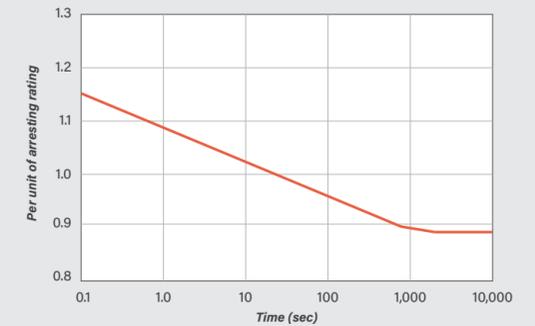


Technical Parameters

5kA Normal Duty

Rated voltage U_r: 3 kV to 54 kV
 Nominal discharge current: 5 kA
 High current impulse: 65 kA
 Long duration current impulse : 100 A / 2,000 μs
 Pressure relief class: B (20 kA)
 Energy withstand capability: 2.1 kJ/kV_{U_r}
 Torsional strength (MML): 52 Nm
 Bending strength (MML): 130 Nm
 Tensile strength (MML): 800 N
 (SML = 2.5 x MML)

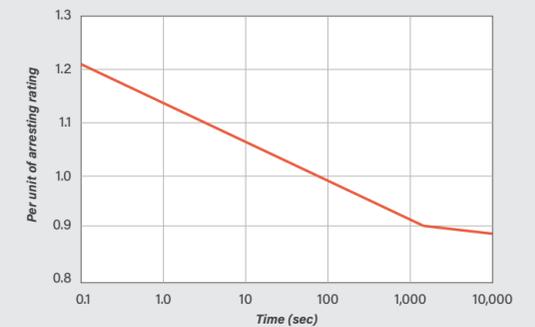
Power frequency voltage versus time characteristic (TOV)
 Preheated to 60°C prestressed with 1 high current impulse 65kA



10kA Heavy Duty

Rated voltage U_r: 3 kV to 54 kV
 Nominal discharge current: 10 kA
 High current impulse: 100 kA
 Long duration current impulse : 250 A / 2,000 μs
 Pressure relief class: B (20 kA)
 Line discharge class: 1 (2.8 kJ/kV_{U_r})
 Torsional strength (MML): 78 Nm
 Bending strength (MML): 230 Nm
 Tensile strength (MML): 1,400 N
 (SML = 2.5 x MML)

Power frequency voltage versus time characteristic (TOV)
 Preheated to 60°C prestressed with 1 high current impulse 100kA



Got Questions?

CALL OUR CUSTOMER SUPPORT TEAM 1300 446 565

