

# IEEE/IEC Lightning Arrester

Kim chống sét cho các ứng dụng điện AC và DC



## Loại

Porcelain (sứ)

Polymer (polymer)

## Phân loại mức độ điện áp

Class 1 - 10,000 Amp Nominal Discharge Current /Distribution Class

Class 2 - 10,000 Amp Nominal Discharge Current/ Distribution Class/Intermediate Class

Class 3 - 10,000 Amp Nominal Discharge Current,  $U_r \leq 420$  kV/Station Class

Class 4 - 20,000 Amp Nominal Discharge Current,  $U_r \leq 420$  kV/ Station Class

Class 5 - 20,000 Amp Nominal Discharge Current ,  $U_r > 360$  kV/ Station Class

## Phân loại mức độ ô nhiễm

Medium ( $\geq 20$ mm/kV Um)

Heavy ( $\geq 25$  mm/kV Um)

Very Heavy ( $\geq 31$  mm/kV Um)

## Phân loại ứng dụng

Transmission line (đường dây truyền tải)

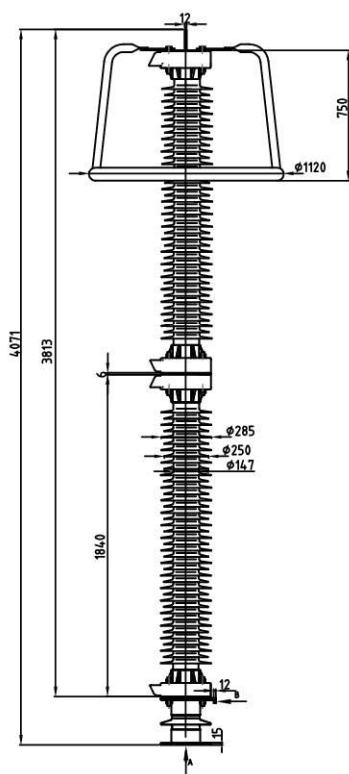
Substation (phân phối)

GIS

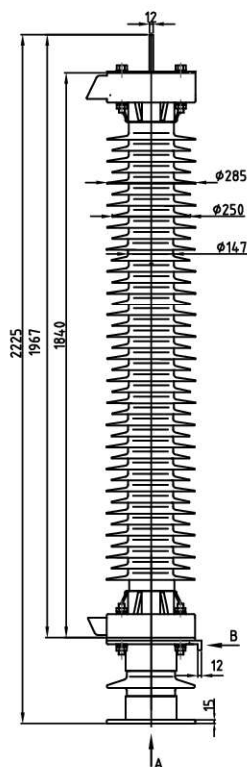
HVDC

Railroad, generator, motor, reactor, capacitor and SVC protection

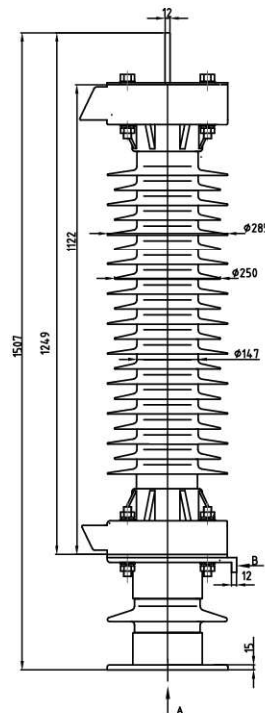
## Bản vẽ kim chống sét Polymer (mm)



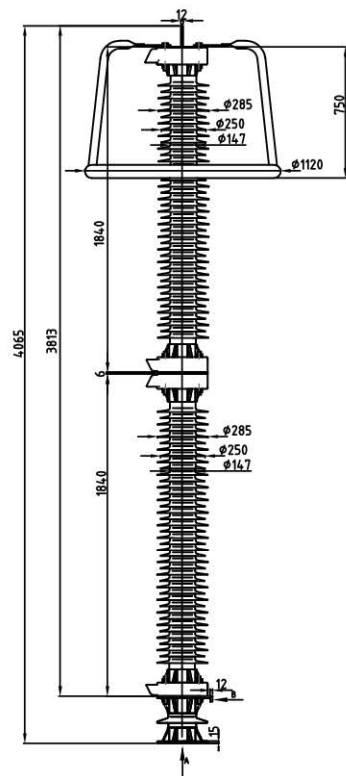
300kV



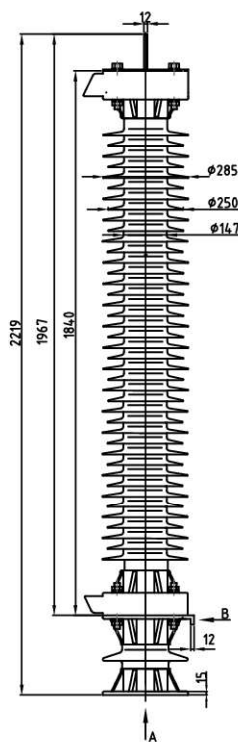
145kV



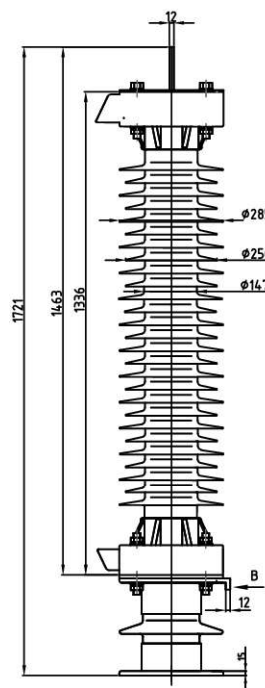
72kV



362kV



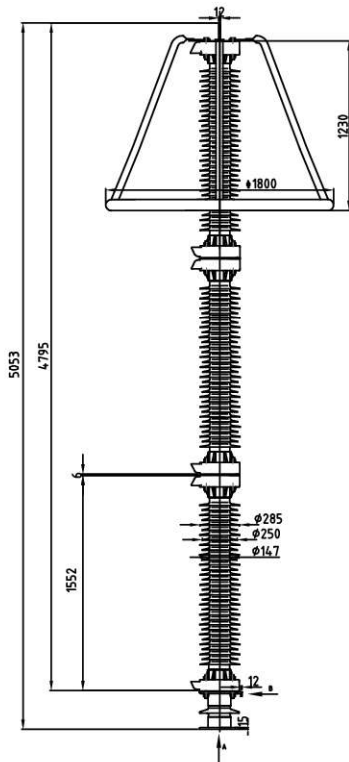
170kV



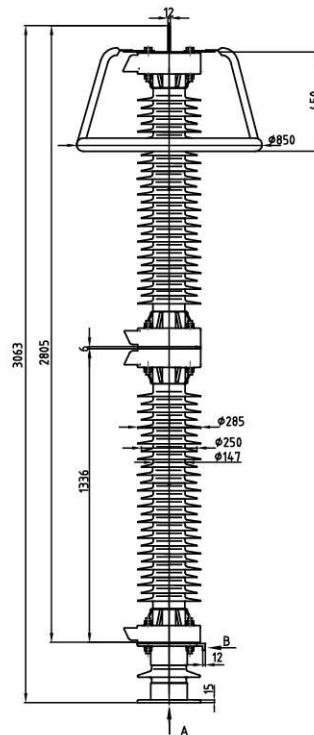
100kV

Để biết thông số kỹ thuật về xếp hạng Class 3, 4 và 5, vui lòng tham khảo các bảng từ trang 4 đến trang 12.

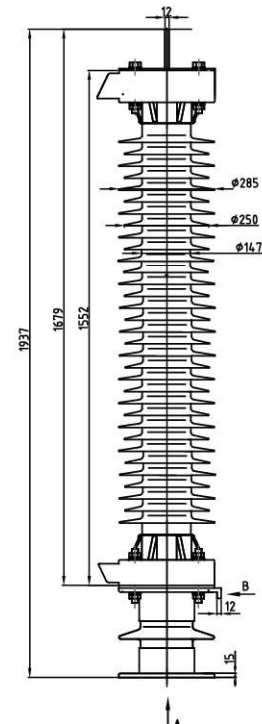
## Bản vẽ kim chống sét Polymer (mm)



420kV

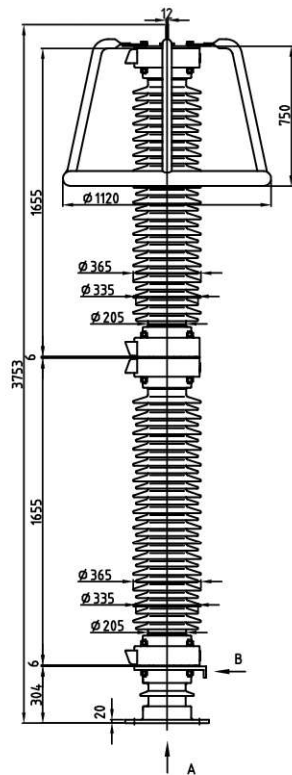


245kV

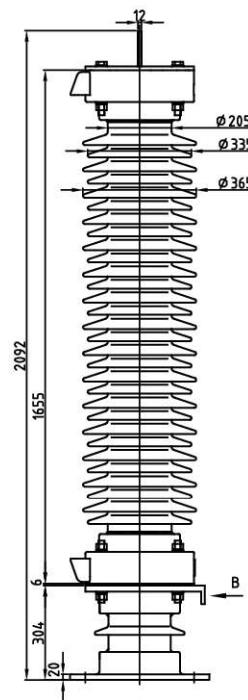


123kV

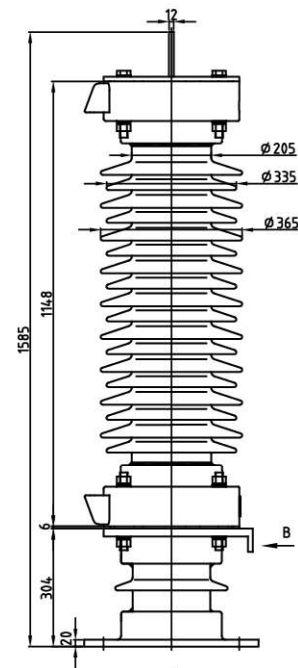
## Bản vẽ kim chống sét bằng sứ (mm)



300kV



145kV



72kV



The image displays six technical drawings of high-voltage insulators, arranged in a 3x2 grid. Each drawing shows a side view of the insulator with its dimensions and specifications.

- 362kV:** Dimensions include 1874, 750, 1120, 365, 335, 205, 4091, 6, 1874, 304, 20, and 6. Labels include  $\phi 1120$ ,  $\phi 365$ ,  $\phi 335$ ,  $\phi 205$ , and arrows A and B.
- 170kV:** Dimensions include 12, 2261, 1874, 6, 304, 20, and 6. Labels include  $\phi 205$ ,  $\phi 335$ ,  $\phi 365$ , and arrows A and B.
- 100kV:** Dimensions include 12, 1754, 1317, 6, 304, 20, and 6. Labels include  $\phi 205$ ,  $\phi 335$ ,  $\phi 365$ , and arrows A and B.
- 420kV:** Dimensions include 12, 1655, 1230, 1800, 6, 1655, 5414, 6, 1655, 6, 304, 20, and 6. Labels include  $\phi 205$ ,  $\phi 335$ ,  $\phi 365$ , and arrows A and B.
- 245kV:** Dimensions include 12, 1486, 450, 850, 3415, 1486, 10, 304, 20, and 6. Labels include  $\phi 365$ ,  $\phi 335$ ,  $\phi 205$ , and arrows A and B.
- 123kV:** Dimensions include 12, 1923, 1486, 6, 304, 20, and 6. Labels include  $\phi 205$ ,  $\phi 335$ ,  $\phi 365$ , and arrows A and B.

## Class 3 Ratings (Porcelain and Polymer)

| IEC60099-4<br>CLASS 3<br>IEEE C62.11<br>STATION CLASS |    |      | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |           |           |           | FRONT<br>OF WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |           |      |          |          |          |
|-------------------------------------------------------|----|------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|-----------|-----------|-----------|---------------------------|------------------------------------------------------------|-----------|------|----------|----------|----------|
|                                                       |    |      |                              |                             |                          |              | .25<br>KA                             | .50<br>KA | 1.0<br>KA | 2.0<br>KA |                           |                                                            |           |      |          |          |          |
| Um                                                    | Ur | Uc   | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV        | kV        | kV        | kV                        | 1.5<br>kA                                                  | 2.5<br>kA | 5 kA | 10<br>kA | 20<br>kA | 40<br>kA |
| 12                                                    | 9  | 7.2  | 372                          | 378                         | 10.4                     | 9.9          | 19.7                                  | 19.9      | 20.7      | 21.7      | 26.3                      | 20.2                                                       | 20.6      | 22.0 | 23.4     | 26.3     | 29.2     |
| 12                                                    | 12 | 9.6  | 372                          | 378                         | 13.8                     | 13.2         | 26.3                                  | 26.6      | 27.6      | 28.9      | 35.0                      | 26.9                                                       | 27.4      | 29.3 | 31.2     | 35.0     | 39.0     |
| 12                                                    | 15 | 12   | 372                          | 378                         | 17.3                     | 16.5         | 32.8                                  | 33.2      | 34.5      | 36.2      | 43.8                      | 33.6                                                       | 34.3      | 36.7 | 39.0     | 43.8     | 48.7     |
| 17.5                                                  | 15 | 12   | 542.5                        | 551                         | 17.3                     | 16.5         | 32.8                                  | 33.2      | 34.5      | 36.2      | 43.8                      | 33.6                                                       | 34.3      | 36.7 | 39.0     | 43.8     | 48.7     |
| 17.5                                                  | 18 | 14.4 | 542.5                        | 551                         | 20.7                     | 19.8         | 39.4                                  | 39.8      | 41.4      | 43.4      | 52.5                      | 40.3                                                       | 41.2      | 44.0 | 46.8     | 52.5     | 58.5     |
| 17.5                                                  | 21 | 16.8 | 542.5                        | 551                         | 24.2                     | 23.1         | 46                                    | 46.5      | 48.2      | 50.6      | 61.3                      | 47.0                                                       | 48.0      | 51.3 | 54.6     | 61.3     | 68.2     |
| 17.5                                                  | 24 | 19.2 | 542.5                        | 551                         | 27.6                     | 26.4         | 52.5                                  | 53.1      | 55.1      | 57.9      | 70.0                      | 53.7                                                       | 54.9      | 58.7 | 62.4     | 70.0     | 78.0     |
| 24                                                    | 18 | 14.4 | 744                          | 755                         | 20.7                     | 19.8         | 39.4                                  | 39.8      | 41.4      | 43.4      | 52.5                      | 40.3                                                       | 41.2      | 44.0 | 46.8     | 52.5     | 58.5     |
| 24                                                    | 21 | 16.8 | 744                          | 755                         | 24.2                     | 23.1         | 46                                    | 46.5      | 48.2      | 50.6      | 61.3                      | 47.0                                                       | 48.0      | 51.3 | 54.6     | 61.3     | 68.2     |
| 24                                                    | 24 | 19.2 | 744                          | 755                         | 27.6                     | 26.4         | 52.5                                  | 53.1      | 55.1      | 57.9      | 70.0                      | 53.7                                                       | 54.9      | 58.7 | 62.4     | 70.0     | 78.0     |
| 24                                                    | 27 | 21.6 | 744                          | 755                         | 31.1                     | 29.7         | 59.1                                  | 59.7      | 62        | 65.1      | 78.8                      | 60.5                                                       | 61.7      | 66.0 | 70.3     | 78.8     | 87.7     |
| 24                                                    | 30 | 24   | 744                          | 755                         | 34.5                     | 33.0         | 65.6                                  | 66.4      | 68.9      | 72.3      | 87.5                      | 67.2                                                       | 68.6      | 73.3 | 78.1     | 87.5     | 97.5     |
| 30                                                    | 24 | 19.2 | 930                          | 944                         | 27.6                     | 26.4         | 52.5                                  | 53.1      | 55.1      | 57.9      | 70.0                      | 53.7                                                       | 54.9      | 58.7 | 62.4     | 70.0     | 78.0     |
| 36                                                    | 27 | 21.6 | 1116                         | 1133                        | 31.1                     | 29.7         | 59.1                                  | 59.7      | 62        | 65.1      | 78.8                      | 60.5                                                       | 61.7      | 66.0 | 70.3     | 78.8     | 87.7     |
| 36                                                    | 30 | 24   | 1116                         | 1133                        | 34.5                     | 33.0         | 65.6                                  | 66.4      | 68.9      | 72.3      | 87.5                      | 67.2                                                       | 68.6      | 73.3 | 78.1     | 87.5     | 97.5     |
| 36                                                    | 33 | 26.4 | 1116                         | 1133                        | 38.0                     | 36.3         | 72.2                                  | 73        | 75.8      | 79.6      | 96.3                      | 73.9                                                       | 75.5      | 80.7 | 85.9     | 96.3     | 107      |
| 36                                                    | 36 | 28.8 | 1116                         | 1133                        | 41.4                     | 39.6         | 78.8                                  | 79.7      | 82.7      | 86.8      | 105                       | 80.6                                                       | 82.3      | 88.0 | 93.7     | 105      | 117      |
| 36                                                    | 39 | 31.2 | 1116                         | 1133                        | 44.9                     | 42.9         | 85.3                                  | 86.3      | 89.6      | 94        | 114                       | 87.3                                                       | 89.2      | 95.4 | 101      | 114      | 127      |
| 36                                                    | 42 | 33.6 | 1116                         | 1133                        | 48.3                     | 46.2         | 91.9                                  | 92.9      | 96.5      | 101.3     | 123                       | 94.0                                                       | 96.0      | 103  | 109      | 123      | 136      |
| 36                                                    | 45 | 36   | 1116                         | 1133                        | 51.8                     | 49.5         | 98.5                                  | 99.6      | 103.4     | 108.5     | 131                       | 101                                                        | 103       | 110  | 117      | 131      | 146      |
| 36                                                    | 48 | 38.4 | 1116                         | 1133                        | 55.2                     | 52.8         | 105                                   | 106       | 110.3     | 115.7     | 140                       | 107                                                        | 110       | 117  | 125      | 140      | 156      |
| 48                                                    | 36 | 28.8 | 1488                         | 1510                        | 41.4                     | 39.6         | 78.8                                  | 79.7      | 82.7      | 86.8      | 105                       | 80.6                                                       | 82.3      | 88.0 | 93.7     | 105      | 117      |
| 48                                                    | 39 | 31.2 | 1488                         | 1510                        | 44.9                     | 42.9         | 85.3                                  | 86.3      | 89.6      | 94        | 114                       | 87.3                                                       | 89.2      | 95.4 | 101      | 114      | 127      |
| 52                                                    | 42 | 33.6 | 1612                         | 1636                        | 48.3                     | 46.2         | 91.9                                  | 92.9      | 96.5      | 101       | 123                       | 94.0                                                       | 96.0      | 103  | 109      | 123      | 136      |
| 52                                                    | 45 | 36   | 1612                         | 1636                        | 51.8                     | 49.5         | 98.5                                  | 100       | 103       | 109       | 131                       | 101                                                        | 103       | 110  | 117      | 131      | 146      |
| 52                                                    | 48 | 38.4 | 1612                         | 1636                        | 55.2                     | 52.8         | 105                                   | 106       | 110       | 116       | 140                       | 107                                                        | 110       | 117  | 125      | 140      | 156      |
| 52                                                    | 51 | 40.8 | 1612                         | 1636                        | 58.7                     | 56.1         | 112                                   | 113       | 117       | 123       | 149                       | 114                                                        | 117       | 125  | 133      | 149      | 166      |
| 52                                                    | 54 | 43.2 | 1612                         | 1636                        | 62.1                     | 59.4         | 119                                   | 119       | 124       | 130       | 158                       | 121                                                        | 123       | 132  | 141      | 158      | 175      |
| 52                                                    | 60 | 48   | 1612                         | 1636                        | 69.0                     | 66.0         | 132                                   | 133       | 138       | 145       | 175                       | 134                                                        | 137       | 147  | 156      | 175      | 195      |
| 52                                                    | 63 | 50.4 | 1612                         | 1636                        | 72.5                     | 69.3         | 139                                   | 139       | 145       | 152       | 184                       | 141                                                        | 144       | 154  | 164      | 184      | 205      |
| 52                                                    | 66 | 52.8 | 1612                         | 1636                        | 75.9                     | 72.6         | 145                                   | 146       | 152       | 159       | 193                       | 148                                                        | 151       | 161  | 172      | 193      | 214      |
| 72                                                    | 54 | 43.2 | 2232                         | 2265                        | 62.1                     | 59.4         | 119                                   | 119       | 124       | 130       | 158                       | 121                                                        | 123       | 132  | 141      | 158      | 175      |
| 72                                                    | 60 | 48   | 2232                         | 2265                        | 69.0                     | 66.0         | 132                                   | 133       | 138       | 145       | 175                       | 134                                                        | 137       | 147  | 156      | 175      | 195      |
| 72                                                    | 63 | 50.4 | 2232                         | 2265                        | 72.5                     | 69.3         | 139                                   | 139       | 145       | 152       | 184                       | 141                                                        | 144       | 154  | 164      | 184      | 205      |
| 72                                                    | 66 | 52.8 | 2232                         | 2265                        | 75.9                     | 72.6         | 145                                   | 146       | 152       | 159       | 193                       | 148                                                        | 151       | 161  | 172      | 193      | 214      |
| 72                                                    | 72 | 57.6 | 2232                         | 2265                        | 82.8                     | 79.2         | 158                                   | 159       | 165       | 174       | 210                       | 161                                                        | 165       | 176  | 187      | 210      | 234      |
| 72                                                    | 75 | 60   | 2232                         | 2265                        | 86.3                     | 82.5         | 165                                   | 166       | 172       | 181       | 219                       | 168                                                        | 172       | 183  | 195      | 219      | 244      |
| 72                                                    | 78 | 62.4 | 2232                         | 2265                        | 89.7                     | 85.8         | 172                                   | 173       | 179       | 188       | 228                       | 175                                                        | 178       | 191  | 203      | 228      | 253      |
| 72                                                    | 81 | 64.8 | 2232                         | 2265                        | 93.2                     | 89.1         | 178                                   | 179       | 186       | 195       | 236                       | 181                                                        | 185       | 198  | 211      | 236      | 263      |



## Class 3 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 3<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |           |           |           | FRONT<br>OF WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |           |      |          |          |          |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|-----------|-----------|-----------|---------------------------|------------------------------------------------------------|-----------|------|----------|----------|----------|
|                                                       |     |       |                              |                             |                          |              | .25<br>KA                             | .50<br>KA | 1.0<br>KA | 2.0<br>KA |                           |                                                            |           |      |          |          |          |
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV        | kV        | kV        | kV                        | 1.5<br>kA                                                  | 2.5<br>kA | 5 kA | 10<br>kA | 20<br>kA | 40<br>kA |
| 72                                                    | 84  | 67.2  | 2232                         | 2265                        | 96.6                     | 92.4         | 185                                   | 186       | 193       | 203       | 245                       | 188                                                        | 192       | 205  | 219      | 245      | 273      |
| 72                                                    | 87  | 69.6  | 2232                         | 2265                        | 100                      | 95.7         | 191                                   | 193       | 200       | 210       | 254                       | 195                                                        | 199       | 213  | 226      | 254      | 283      |
| 72                                                    | 90  | 72    | 2232                         | 2265                        | 104                      | 99.0         | 198                                   | 199       | 207       | 217       | 263                       | 202                                                        | 206       | 220  | 234      | 263      | 292      |
| 72                                                    | 93  | 74.4  | 2232                         | 2265                        | 107                      | 102.3        | 205                                   | 206       | 214       | 224       | 271                       | 208                                                        | 213       | 227  | 242      | 271      | 302      |
| 72                                                    | 96  | 76.8  | 2232                         | 2265                        | 110                      | 105.6        | 211                                   | 212       | 221       | 231       | 280                       | 215                                                        | 220       | 235  | 250      | 280      | 312      |
| 100                                                   | 75  | 60    | 3100                         | 3147                        | 86.3                     | 82.5         | 165                                   | 166       | 172       | 181       | 219                       | 168                                                        | 172       | 183  | 195      | 219      | 244      |
| 100                                                   | 78  | 62.4  | 3100                         | 3147                        | 89.7                     | 85.8         | 172                                   | 173       | 179       | 188       | 228                       | 175                                                        | 178       | 191  | 203      | 228      | 253      |
| 100                                                   | 81  | 64.8  | 3100                         | 3147                        | 93.2                     | 89.1         | 178                                   | 179       | 186       | 195       | 236                       | 181                                                        | 185       | 198  | 211      | 236      | 263      |
| 100                                                   | 84  | 67.2  | 3100                         | 3147                        | 96.6                     | 92.4         | 185                                   | 186       | 193       | 203       | 245                       | 188                                                        | 192       | 205  | 219      | 245      | 273      |
| 100                                                   | 87  | 69.6  | 3100                         | 3147                        | 100                      | 95.7         | 191                                   | 193       | 200       | 210       | 254                       | 195                                                        | 199       | 213  | 226      | 254      | 283      |
| 100                                                   | 90  | 72    | 3100                         | 3147                        | 104                      | 99.0         | 198                                   | 199       | 207       | 217       | 263                       | 202                                                        | 206       | 220  | 234      | 263      | 292      |
| 100                                                   | 93  | 74.4  | 3100                         | 3147                        | 107                      | 102          | 205                                   | 206       | 214       | 224       | 271                       | 208                                                        | 213       | 227  | 242      | 271      | 302      |
| 100                                                   | 96  | 76.8  | 3100                         | 3147                        | 110                      | 106          | 211                                   | 212       | 221       | 231       | 280                       | 215                                                        | 220       | 235  | 250      | 280      | 312      |
| 123                                                   | 90  | 72    | 3813                         | 3870                        | 104                      | 99.0         | 198                                   | 199       | 207       | 217       | 263                       | 202                                                        | 206       | 220  | 234      | 263      | 292      |
| 123                                                   | 93  | 74.4  | 3813                         | 3870                        | 107                      | 102          | 205                                   | 206       | 214       | 224       | 271                       | 208                                                        | 213       | 227  | 242      | 271      | 302      |
| 123                                                   | 96  | 76.8  | 3813                         | 3870                        | 110                      | 106          | 211                                   | 212       | 221       | 231       | 280                       | 215                                                        | 220       | 235  | 250      | 280      | 312      |
| 123                                                   | 102 | 81.6  | 3813                         | 3870                        | 117                      | 112          | 224                                   | 226       | 234       | 246       | 298                       | 228                                                        | 233       | 249  | 265      | 298      | 331      |
| 123                                                   | 108 | 86.4  | 3813                         | 3870                        | 124                      | 119          | 238                                   | 239       | 248       | 260       | 315                       | 242                                                        | 247       | 264  | 281      | 315      | 351      |
| 123                                                   | 114 | 91.2  | 3813                         | 3870                        | 131                      | 125          | 251                                   | 252       | 262       | 275       | 333                       | 255                                                        | 261       | 279  | 297      | 333      | 370      |
| 123                                                   | 120 | 96    | 3813                         | 3870                        | 138                      | 132          | 264                                   | 266       | 276       | 289       | 350                       | 269                                                        | 274       | 293  | 312      | 350      | 390      |
| 123                                                   | 126 | 100.8 | 3813                         | 3870                        | 145                      | 139          | 277                                   | 279       | 289       | 304       | 368                       | 282                                                        | 288       | 308  | 328      | 368      | 409      |
| 145                                                   | 114 | 91.2  | 4495                         | 4562                        | 131                      | 125          | 251                                   | 252       | 262       | 275       | 333                       | 255                                                        | 261       | 279  | 297      | 333      | 370      |
| 145                                                   | 120 | 96    | 4495                         | 4562                        | 138                      | 132          | 264                                   | 266       | 276       | 289       | 350                       | 269                                                        | 274       | 293  | 312      | 350      | 390      |
| 145                                                   | 126 | 100.8 | 4495                         | 4562                        | 145                      | 139          | 277                                   | 279       | 289       | 304       | 368                       | 282                                                        | 288       | 308  | 328      | 368      | 409      |
| 145                                                   | 132 | 105.6 | 4495                         | 4562                        | 152                      | 145          | 290                                   | 292       | 303       | 318       | 385                       | 296                                                        | 302       | 323  | 343      | 385      | 429      |
| 145                                                   | 138 | 110.4 | 4495                         | 4562                        | 159                      | 152          | 304                                   | 305       | 317       | 333       | 403                       | 309                                                        | 316       | 337  | 359      | 403      | 448      |
| 145                                                   | 144 | 115.2 | 4495                         | 4562                        | 166                      | 158          | 317                                   | 319       | 331       | 347       | 420                       | 322                                                        | 329       | 352  | 375      | 420      | 468      |
| 170                                                   | 132 | 105.6 | 5270                         | 5349                        | 152                      | 145          | 290                                   | 292       | 303       | 318       | 385                       | 296                                                        | 302       | 323  | 343      | 385      | 429      |
| 170                                                   | 138 | 110.4 | 5270                         | 5349                        | 159                      | 152          | 304                                   | 305       | 317       | 333       | 403                       | 309                                                        | 316       | 337  | 359      | 403      | 448      |
| 170                                                   | 144 | 115.2 | 5270                         | 5349                        | 166                      | 158          | 317                                   | 319       | 331       | 347       | 420                       | 322                                                        | 329       | 352  | 375      | 420      | 468      |
| 170                                                   | 150 | 120   | 5270                         | 5349                        | 173                      | 165          | 330                                   | 332       | 345       | 362       | 438                       | 336                                                        | 343       | 367  | 390      | 438      | 487      |
| 170                                                   | 162 | 129.6 | 5270                         | 5349                        | 186                      | 178          | 356                                   | 358       | 372       | 391       | 473                       | 363                                                        | 370       | 396  | 422      | 473      | 526      |
| 170                                                   | 168 | 134.4 | 5270                         | 5349                        | 193                      | 185          | 370                                   | 372       | 386       | 405       | 490                       | 376                                                        | 384       | 411  | 437      | 490      | 546      |
| 245                                                   | 180 | 144   | 7595                         | 7709                        | 207                      | 198          | 396                                   | 398       | 414       | 434       | 525                       | 403                                                        | 412       | 440  | 468      | 525      | 585      |
| 245                                                   | 186 | 148.8 | 7595                         | 7709                        | 214                      | 205          | 409                                   | 412       | 427       | 449       | 543                       | 416                                                        | 425       | 455  | 484      | 543      | 604      |
| 245                                                   | 192 | 153.6 | 7595                         | 7709                        | 221                      | 211          | 422                                   | 425       | 441       | 463       | 560                       | 430                                                        | 439       | 469  | 500      | 560      | 624      |
| 245                                                   | 198 | 158.4 | 7595                         | 7709                        | 228                      | 218          | 435                                   | 438       | 455       | 477       | 578                       | 443                                                        | 453       | 484  | 515      | 578      | 643      |
| 245                                                   | 210 | 168   | 7595                         | 7709                        | 242                      | 231          | 462                                   | 465       | 482       | 506       | 613                       | 470                                                        | 480       | 513  | 546      | 613      | 682      |
| 245                                                   | 216 | 172.8 | 7595                         | 7709                        | 248                      | 238          | 475                                   | 478       | 496       | 521       | 630                       | 484                                                        | 494       | 528  | 562      | 630      | 702      |
| 245                                                   | 222 | 177.6 | 7595                         | 7709                        | 255                      | 244          | 488                                   | 491       | 510       | 535       | 648                       | 497                                                        | 508       | 543  | 578      | 648      | 721      |
| 245                                                   | 228 | 182.4 | 7595                         | 7709                        | 262                      | 251          | 501                                   | 505       | 524       | 550       | 665                       | 511                                                        | 521       | 557  | 593      | 665      | 741      |

## Class 4 Ratings (Porcelain and Polymer)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |    |      | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |        |        |        | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |      |       |       |       |
|-------------------------------------------------------|----|------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|--------|--------|--------|------------------------------|------------------------------------------------------------|--------|------|-------|-------|-------|
|                                                       |    |      |                              |                             |                          |              | .25 KA                                | .50 KA | 1.0 KA | 2.0 KA |                              |                                                            |        |      |       |       |       |
| Um                                                    | Ur | Uc   | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV     | kV     | kV     | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA | 10 kA | 20 kA | 40 kA |
| 12                                                    | 12 | 9.6  | 372                          | 378                         | 13.8                     | 13.2         | 23.2                                  | 23.6   | 24.7   | 25.7   | 37.1                         | 25.1                                                       | 25.7   | 27.5 | 29.2  | 32.5  | 36.0  |
| 12                                                    | 15 | 12   | 372                          | 378                         | 17.3                     | 16.5         | 29.0                                  | 29.6   | 30.9   | 32.1   | 46.4                         | 31.4                                                       | 32.1   | 34.3 | 36.5  | 40.6  | 44.9  |
| 17.5                                                  | 15 | 12   | 542.5                        | 551                         | 17.3                     | 16.5         | 29.0                                  | 29.6   | 30.9   | 32.1   | 46.4                         | 31.4                                                       | 32.1   | 34.3 | 36.5  | 40.6  | 44.9  |
| 17.5                                                  | 18 | 14.4 | 542.5                        | 551                         | 20.7                     | 19.8         | 34.7                                  | 35.5   | 37.1   | 38.5   | 55.6                         | 37.7                                                       | 38.5   | 41.2 | 43.8  | 48.7  | 53.9  |
| 17.5                                                  | 21 | 16.8 | 542.5                        | 551                         | 24.2                     | 23.1         | 40.5                                  | 41.4   | 43.3   | 45.0   | 64.9                         | 44.0                                                       | 44.9   | 48.1 | 51.2  | 56.8  | 62.9  |
| 17.5                                                  | 24 | 19.2 | 542.5                        | 551                         | 27.6                     | 26.4         | 46.3                                  | 47.3   | 49.5   | 51.4   | 74.2                         | 50.3                                                       | 51.3   | 54.9 | 58.5  | 64.9  | 71.9  |
| 24                                                    | 18 | 14.4 | 744                          | 755                         | 20.7                     | 19.8         | 34.7                                  | 35.5   | 37.1   | 38.5   | 55.6                         | 37.7                                                       | 38.5   | 41.2 | 43.8  | 48.7  | 53.9  |
| 24                                                    | 21 | 16.8 | 744                          | 755                         | 24.2                     | 23.1         | 40.5                                  | 41.4   | 43.3   | 45.0   | 64.9                         | 44.0                                                       | 44.9   | 48.1 | 51.2  | 56.8  | 62.9  |
| 24                                                    | 24 | 19.2 | 744                          | 755                         | 27.6                     | 26.4         | 46.3                                  | 47.3   | 49.5   | 51.4   | 74.2                         | 50.3                                                       | 51.3   | 54.9 | 58.5  | 64.9  | 71.9  |
| 24                                                    | 27 | 21.6 | 744                          | 755                         | 31.1                     | 29.7         | 52.1                                  | 53.2   | 55.6   | 57.8   | 83.5                         | 56.5                                                       | 57.8   | 61.8 | 65.8  | 73    | 80.9  |
| 24                                                    | 30 | 24   | 744                          | 755                         | 34.5                     | 33.0         | 57.9                                  | 59.1   | 61.8   | 64.2   | 92.7                         | 62.8                                                       | 64.2   | 68.6 | 73.1  | 81.1  | 89.9  |
| 30                                                    | 24 | 19.2 | 930                          | 944                         | 27.6                     | 26.4         | 46.3                                  | 47.3   | 49.5   | 51.4   | 74.2                         | 50.3                                                       | 51.3   | 54.9 | 58.5  | 64.9  | 71.9  |
| 36                                                    | 27 | 21.6 | 1116                         | 1133                        | 31.1                     | 29.7         | 52.1                                  | 53.2   | 55.6   | 57.8   | 83.5                         | 56.5                                                       | 57.8   | 61.8 | 65.8  | 73    | 80.9  |
| 36                                                    | 30 | 24   | 1116                         | 1133                        | 34.5                     | 33.0         | 57.9                                  | 59.1   | 61.8   | 64.2   | 92.7                         | 62.8                                                       | 64.2   | 68.6 | 73.1  | 81.1  | 89.9  |
| 36                                                    | 33 | 26.4 | 1116                         | 1133                        | 38.0                     | 36.3         | 63.7                                  | 65.0   | 68.0   | 70.7   | 102                          | 69.1                                                       | 70.6   | 75.5 | 80.4  | 89.2  | 98.9  |
| 36                                                    | 36 | 28.8 | 1116                         | 1133                        | 41.4                     | 39.6         | 69.5                                  | 70.9   | 74.2   | 77.1   | 111                          | 75.4                                                       | 77.0   | 82.4 | 87.7  | 97.4  | 108   |
| 36                                                    | 39 | 31.2 | 1116                         | 1133                        | 44.9                     | 42.9         | 75.3                                  | 76.8   | 80.4   | 83.5   | 121                          | 81.7                                                       | 83.4   | 89.2 | 95.0  | 105   | 117   |
| 36                                                    | 42 | 33.6 | 1116                         | 1133                        | 48.3                     | 46.2         | 81.1                                  | 82.8   | 86.6   | 89.9   | 130                          | 88                                                         | 89.9   | 96.1 | 102   | 114   | 126   |
| 36                                                    | 45 | 36   | 1116                         | 1133                        | 51.8                     | 49.5         | 86.9                                  | 88.7   | 92.7   | 96.4   | 139                          | 94.2                                                       | 96.3   | 103  | 110   | 122   | 135   |
| 36                                                    | 48 | 38.4 | 1116                         | 1133                        | 55.2                     | 52.8         | 92.7                                  | 94.6   | 98.9   | 103    | 148                          | 101                                                        | 102.7  | 110  | 117   | 130   | 144   |
| 48                                                    | 36 | 28.8 | 1488                         | 1510                        | 41.4                     | 39.6         | 69.5                                  | 70.9   | 74.2   | 77.0   | 111                          | 75.4                                                       | 77.0   | 82.4 | 87.7  | 97    | 108   |
| 48                                                    | 39 | 31.2 | 1488                         | 1510                        | 44.9                     | 42.9         | 75.3                                  | 76.8   | 80.4   | 84.0   | 121                          | 81.7                                                       | 83.4   | 89.2 | 95.0  | 105   | 117   |
| 52                                                    | 42 | 33.6 | 1612                         | 1636                        | 48.3                     | 46.2         | 81.1                                  | 82.8   | 86.6   | 90.0   | 130                          | 88.0                                                       | 89.9   | 96.1 | 102   | 114   | 126   |
| 52                                                    | 45 | 36   | 1612                         | 1636                        | 51.8                     | 49.5         | 86.9                                  | 88.7   | 92.7   | 96.0   | 139                          | 94.2                                                       | 96.3   | 103  | 110   | 122   | 135   |
| 52                                                    | 48 | 38.4 | 1612                         | 1636                        | 55.2                     | 52.8         | 92.7                                  | 94.6   | 98.9   | 103    | 148                          | 101                                                        | 103    | 110  | 117   | 130   | 144   |
| 52                                                    | 51 | 40.8 | 1612                         | 1636                        | 58.7                     | 56.1         | 98.4                                  | 100    | 105    | 109    | 158                          | 107                                                        | 109    | 117  | 124   | 138   | 153   |
| 52                                                    | 54 | 43.2 | 1612                         | 1636                        | 62.1                     | 59.4         | 104                                   | 106    | 111    | 116    | 167                          | 113                                                        | 116    | 124  | 132   | 146   | 162   |
| 52                                                    | 60 | 48   | 1612                         | 1636                        | 69.0                     | 66.0         | 116                                   | 118    | 124    | 128    | 185                          | 126                                                        | 128    | 137  | 146   | 162   | 180   |
| 52                                                    | 63 | 50.4 | 1612                         | 1636                        | 72.5                     | 69.3         | 122                                   | 124    | 130    | 135    | 195                          | 132                                                        | 135    | 144  | 153   | 170   | 189   |
| 52                                                    | 66 | 52.8 | 1612                         | 1636                        | 75.9                     | 72.6         | 127                                   | 130    | 136    | 141    | 204                          | 138                                                        | 141    | 151  | 161   | 178   | 198   |
| 72                                                    | 54 | 43.2 | 2232                         | 2265                        | 62.1                     | 59.4         | 104                                   | 106    | 111    | 116    | 167                          | 113                                                        | 116    | 124  | 132   | 146   | 162   |
| 72                                                    | 60 | 48   | 2232                         | 2265                        | 69.0                     | 66.0         | 116                                   | 118    | 124    | 128    | 185                          | 126                                                        | 128    | 137  | 146   | 162   | 180   |
| 72                                                    | 63 | 50.4 | 2232                         | 2265                        | 72.5                     | 69.3         | 122                                   | 124    | 130    | 135    | 195                          | 132                                                        | 135    | 144  | 153   | 170   | 189   |
| 72                                                    | 66 | 52.8 | 2232                         | 2265                        | 75.9                     | 72.6         | 127                                   | 130    | 136    | 141    | 204                          | 138                                                        | 141    | 151  | 161   | 178   | 198   |
| 72                                                    | 72 | 57.6 | 2232                         | 2265                        | 82.8                     | 79.2         | 139                                   | 142    | 148    | 154    | 223                          | 151                                                        | 154    | 165  | 175   | 195   | 216   |
| 72                                                    | 75 | 60   | 2232                         | 2265                        | 86.3                     | 82.5         | 145                                   | 148    | 155    | 161    | 232                          | 157                                                        | 160    | 172  | 183   | 203   | 225   |
| 72                                                    | 78 | 62.4 | 2232                         | 2265                        | 89.7                     | 85.8         | 151                                   | 154    | 161    | 167    | 241                          | 163                                                        | 167    | 178  | 190   | 211   | 234   |
| 72                                                    | 81 | 64.8 | 2232                         | 2265                        | 93.2                     | 89.1         | 156                                   | 160    | 167    | 173    | 250                          | 170                                                        | 173    | 185  | 197   | 219   | 243   |
| 72                                                    | 84 | 67.2 | 2232                         | 2265                        | 96.6                     | 92.4         | 162                                   | 166    | 173    | 180    | 260                          | 176                                                        | 180    | 192  | 205   | 227   | 252   |
| 72                                                    | 87 | 69.6 | 2232                         | 2265                        | 100                      | 95.7         | 168                                   | 171    | 179    | 186    | 269                          | 182                                                        | 186    | 199  | 212   | 235   | 261   |



## Class 4 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |        |        |        | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |      |       |       |       |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|--------|--------|--------|------------------------------|------------------------------------------------------------|--------|------|-------|-------|-------|
|                                                       |     |       |                              |                             |                          |              | .25 KA                                | .50 KA | 1.0 KA | 2.0 KA |                              | 1.5 kA                                                     | 2.5 kA | 5 kA | 10 kA | 20 kA | 40 kA |
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV     | kV     | kV     | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA | 10 kA | 20 kA | 40 kA |
| 72                                                    | 90  | 72    | 2232                         | 2265                        | 104                      | 99.0         | 174                                   | 177    | 185    | 193    | 278                          | 188                                                        | 193    | 206  | 219   | 243   | 270   |
| 72                                                    | 93  | 74.4  | 2232                         | 2265                        | 107                      | 102.3        | 180                                   | 183    | 192    | 199    | 287                          | 195                                                        | 199    | 213  | 227   | 252   | 279   |
| 72                                                    | 96  | 76.8  | 2232                         | 2265                        | 110                      | 106          | 185                                   | 189    | 198    | 206    | 297                          | 201                                                        | 205    | 220  | 234   | 260   | 288   |
| 100                                                   | 75  | 60    | 2500                         | 2538                        | 86.3                     | 82.5         | 145                                   | 148    | 155    | 161    | 232                          | 157                                                        | 160    | 172  | 183   | 203   | 225   |
| 100                                                   | 75  | 60    | 3100                         | 3147                        | 86.3                     | 82.5         | 145                                   | 148    | 155    | 161    | 232                          | 157                                                        | 160    | 172  | 183   | 203   | 225   |
| 100                                                   | 78  | 62.4  | 2500                         | 2538                        | 89.7                     | 85.8         | 151                                   | 154    | 161    | 167    | 241                          | 163                                                        | 167    | 178  | 190   | 211   | 234   |
| 100                                                   | 78  | 62.4  | 3100                         | 3147                        | 89.7                     | 85.8         | 151                                   | 154    | 161    | 167    | 241                          | 163                                                        | 167    | 178  | 190   | 211   | 234   |
| 100                                                   | 81  | 64.8  | 2500                         | 2538                        | 93.2                     | 89.1         | 156                                   | 160    | 167    | 173    | 250                          | 170                                                        | 173    | 185  | 197   | 219   | 243   |
| 100                                                   | 81  | 64.8  | 3100                         | 3147                        | 93.2                     | 89.1         | 156                                   | 160    | 167    | 173    | 250                          | 170                                                        | 173    | 185  | 197   | 219   | 243   |
| 100                                                   | 84  | 67.2  | 2500                         | 2538                        | 96.6                     | 92.4         | 162                                   | 166    | 173    | 180    | 260                          | 176                                                        | 180    | 192  | 205   | 227   | 252   |
| 100                                                   | 84  | 67.2  | 3100                         | 3147                        | 96.6                     | 92.4         | 162                                   | 166    | 173    | 180    | 260                          | 176                                                        | 180    | 192  | 205   | 227   | 252   |
| 100                                                   | 87  | 69.6  | 2500                         | 2538                        | 100                      | 95.7         | 168                                   | 171    | 179    | 186    | 269                          | 182                                                        | 186    | 199  | 212   | 235   | 261   |
| 100                                                   | 87  | 69.6  | 3100                         | 3147                        | 100                      | 95.7         | 168                                   | 171    | 179    | 186    | 269                          | 182                                                        | 186    | 199  | 212   | 235   | 261   |
| 100                                                   | 90  | 72    | 2500                         | 2538                        | 104                      | 99.0         | 174                                   | 177    | 185    | 193    | 278                          | 188                                                        | 193    | 206  | 219   | 243   | 270   |
| 100                                                   | 90  | 72    | 3100                         | 3147                        | 104                      | 99.0         | 174                                   | 177    | 185    | 193    | 278                          | 188                                                        | 193    | 206  | 219   | 243   | 270   |
| 100                                                   | 93  | 74.4  | 2500                         | 2538                        | 107                      | 102          | 180                                   | 183    | 192    | 199    | 287                          | 195                                                        | 199    | 213  | 227   | 252   | 279   |
| 100                                                   | 93  | 74.4  | 3100                         | 3147                        | 107                      | 102          | 180                                   | 183    | 192    | 199    | 287                          | 195                                                        | 199    | 213  | 227   | 252   | 279   |
| 100                                                   | 96  | 76.8  | 2500                         | 2538                        | 110                      | 106          | 185                                   | 189    | 198    | 206    | 297                          | 201                                                        | 205    | 220  | 234   | 260   | 288   |
| 100                                                   | 96  | 76.8  | 3100                         | 3147                        | 110                      | 106          | 185                                   | 189    | 198    | 206    | 297                          | 201                                                        | 205    | 220  | 234   | 260   | 288   |
| 123                                                   | 90  | 72    | 3075                         | 3121                        | 104                      | 99.0         | 174                                   | 177    | 185    | 193    | 278                          | 188                                                        | 193    | 206  | 219   | 243   | 270   |
| 123                                                   | 90  | 72    | 3813                         | 3870                        | 104                      | 99.0         | 174                                   | 177    | 185    | 193    | 278                          | 188                                                        | 193    | 206  | 219   | 243   | 270   |
| 123                                                   | 93  | 74.4  | 3075                         | 3121                        | 107                      | 102          | 180                                   | 183    | 192    | 199    | 287                          | 195                                                        | 199    | 213  | 227   | 252   | 279   |
| 123                                                   | 93  | 74.4  | 3813                         | 3870                        | 107                      | 102          | 180                                   | 183    | 192    | 199    | 287                          | 195                                                        | 199    | 213  | 227   | 252   | 279   |
| 123                                                   | 96  | 76.8  | 3075                         | 3121                        | 110                      | 106          | 185                                   | 189    | 198    | 206    | 297                          | 201                                                        | 205    | 220  | 234   | 260   | 288   |
| 123                                                   | 96  | 76.8  | 3813                         | 3870                        | 110                      | 106          | 185                                   | 189    | 198    | 206    | 297                          | 201                                                        | 205    | 220  | 234   | 260   | 288   |
| 123                                                   | 102 | 81.6  | 3075                         | 3121                        | 117                      | 112          | 197                                   | 201    | 210    | 218    | 315                          | 214                                                        | 218    | 233  | 248   | 276   | 306   |
| 123                                                   | 102 | 81.6  | 3813                         | 3870                        | 117                      | 112          | 197                                   | 201    | 210    | 218    | 315                          | 214                                                        | 218    | 233  | 248   | 276   | 306   |
| 123                                                   | 108 | 86.4  | 3075                         | 3121                        | 124                      | 119          | 208                                   | 213    | 223    | 231    | 334                          | 226                                                        | 231    | 247  | 263   | 292   | 324   |
| 123                                                   | 108 | 86.4  | 3813                         | 3870                        | 124                      | 119          | 208                                   | 213    | 223    | 231    | 334                          | 226                                                        | 231    | 247  | 263   | 292   | 324   |
| 123                                                   | 114 | 91.2  | 3075                         | 3121                        | 131                      | 125          | 220                                   | 225    | 235    | 244    | 352                          | 239                                                        | 244    | 261  | 278   | 308   | 342   |
| 123                                                   | 114 | 91.2  | 3813                         | 3870                        | 131                      | 125          | 220                                   | 225    | 235    | 244    | 352                          | 239                                                        | 244    | 261  | 278   | 308   | 342   |
| 123                                                   | 120 | 96    | 3075                         | 3121                        | 138                      | 132          | 232                                   | 236    | 247    | 257    | 371                          | 251                                                        | 257    | 275  | 292   | 325   | 360   |
| 123                                                   | 120 | 96    | 3813                         | 3870                        | 138                      | 132          | 232                                   | 236    | 247    | 257    | 371                          | 251                                                        | 257    | 275  | 292   | 325   | 360   |
| 123                                                   | 126 | 100.8 | 3075                         | 3121                        | 145                      | 139          | 243                                   | 248    | 260    | 270    | 389                          | 264                                                        | 270    | 288  | 307   | 341   | 377   |
| 123                                                   | 126 | 100.8 | 3813                         | 3870                        | 145                      | 139          | 243                                   | 248    | 260    | 270    | 389                          | 264                                                        | 270    | 288  | 307   | 341   | 377   |
| 145                                                   | 114 | 91.2  | 3625                         | 3679                        | 131                      | 125          | 220                                   | 225    | 235    | 244    | 352                          | 239                                                        | 244    | 261  | 278   | 308   | 342   |
| 145                                                   | 114 | 91.2  | 4495                         | 4562                        | 131                      | 125          | 220                                   | 225    | 235    | 244    | 352                          | 239                                                        | 244    | 261  | 278   | 308   | 342   |
| 145                                                   | 120 | 96    | 3625                         | 3679                        | 138                      | 132          | 232                                   | 236    | 247    | 257    | 371                          | 251                                                        | 257    | 275  | 292   | 325   | 360   |
| 145                                                   | 120 | 96    | 4495                         | 4562                        | 138                      | 132          | 232                                   | 236    | 247    | 257    | 371                          | 251                                                        | 257    | 275  | 292   | 325   | 360   |
| 145                                                   | 126 | 100.8 | 3625                         | 3679                        | 145                      | 139          | 243                                   | 248    | 260    | 270    | 389                          | 264                                                        | 270    | 288  | 307   | 341   | 377   |

## Class 4 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |        |        |        | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |      |       |       |       |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|--------|--------|--------|------------------------------|------------------------------------------------------------|--------|------|-------|-------|-------|
|                                                       |     |       |                              |                             |                          |              | .25 KA                                | .50 KA | 1.0 KA | 2.0 KA |                              | 1.5 KA                                                     | 2.5 KA | 5 KA | 10 KA | 20 KA | 40 KA |
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV     | kV     | kV     | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA | 10 kA | 20 kA | 40 kA |
| 145                                                   | 126 | 100.8 | 4495                         | 4562                        | 145                      | 139          | 243                                   | 248    | 260    | 270    | 389                          | 264                                                        | 270    | 288  | 307   | 341   | 377   |
| 145                                                   | 132 | 105.6 | 3625                         | 3679                        | 152                      | 145          | 255                                   | 260    | 272    | 283    | 408                          | 276                                                        | 282    | 302  | 322   | 357   | 395   |
| 145                                                   | 132 | 105.6 | 4495                         | 4562                        | 152                      | 145          | 255                                   | 260    | 272    | 283    | 408                          | 276                                                        | 282    | 302  | 322   | 357   | 395   |
| 145                                                   | 138 | 110.4 | 3625                         | 3679                        | 159                      | 152          | 266                                   | 272    | 284    | 296    | 427                          | 289                                                        | 295    | 316  | 336   | 373   | 413   |
| 145                                                   | 138 | 110.4 | 4495                         | 4562                        | 159                      | 152          | 266                                   | 272    | 284    | 296    | 427                          | 289                                                        | 295    | 316  | 336   | 373   | 413   |
| 145                                                   | 144 | 115.2 | 3625                         | 3679                        | 166                      | 158          | 278                                   | 284    | 297    | 308    | 445                          | 302                                                        | 308    | 329  | 351   | 389   | 431   |
| 145                                                   | 144 | 115.2 | 4495                         | 4562                        | 166                      | 158          | 278                                   | 284    | 297    | 308    | 445                          | 302                                                        | 308    | 329  | 351   | 389   | 431   |
| 170                                                   | 132 | 105.6 | 4250                         | 4314                        | 152                      | 145          | 255                                   | 260    | 272    | 283    | 408                          | 276                                                        | 282    | 302  | 322   | 357   | 395   |
| 170                                                   | 132 | 105.6 | 5270                         | 5349                        | 152                      | 145          | 255                                   | 260    | 272    | 283    | 408                          | 276                                                        | 282    | 302  | 322   | 357   | 395   |
| 170                                                   | 138 | 110.4 | 4250                         | 4314                        | 159                      | 152          | 266                                   | 272    | 284    | 296    | 427                          | 289                                                        | 295    | 316  | 336   | 373   | 413   |
| 170                                                   | 138 | 110.4 | 5270                         | 5349                        | 159                      | 152          | 266                                   | 272    | 284    | 296    | 427                          | 289                                                        | 295    | 316  | 336   | 373   | 413   |
| 170                                                   | 144 | 115.2 | 4250                         | 4314                        | 166                      | 158          | 278                                   | 284    | 297    | 308    | 445                          | 302                                                        | 308    | 329  | 351   | 389   | 431   |
| 170                                                   | 144 | 115.2 | 5270                         | 5349                        | 166                      | 158          | 278                                   | 284    | 297    | 308    | 445                          | 302                                                        | 308    | 329  | 351   | 389   | 431   |
| 170                                                   | 150 | 120   | 4250                         | 4314                        | 173                      | 165          | 290                                   | 296    | 309    | 321    | 464                          | 314                                                        | 321    | 343  | 365   | 406   | 449   |
| 170                                                   | 150 | 120   | 5270                         | 5349                        | 173                      | 165          | 290                                   | 296    | 309    | 321    | 464                          | 314                                                        | 321    | 343  | 365   | 406   | 449   |
| 170                                                   | 162 | 129.6 | 4250                         | 4314                        | 186                      | 178          | 313                                   | 319    | 334    | 347    | 501                          | 339                                                        | 347    | 371  | 395   | 438   | 485   |
| 170                                                   | 162 | 129.6 | 5270                         | 5349                        | 186                      | 178          | 313                                   | 319    | 334    | 347    | 501                          | 339                                                        | 347    | 371  | 395   | 438   | 485   |
| 170                                                   | 168 | 134.4 | 4250                         | 4314                        | 193                      | 185          | 324                                   | 331    | 346    | 360    | 519                          | 352                                                        | 359    | 384  | 409   | 454   | 503   |
| 170                                                   | 168 | 134.4 | 5270                         | 5349                        | 193                      | 185          | 324                                   | 331    | 346    | 360    | 519                          | 352                                                        | 359    | 384  | 409   | 454   | 503   |
| 245                                                   | 180 | 144   | 6125                         | 6217                        | 207                      | 198          | 347                                   | 355    | 371    | 385    | 556                          | 377                                                        | 385    | 412  | 438   | 487   | 539   |
| 245                                                   | 180 | 144   | 7595                         | 7709                        | 207                      | 198          | 347                                   | 355    | 371    | 385    | 556                          | 377                                                        | 385    | 412  | 438   | 487   | 539   |
| 245                                                   | 186 | 148.8 | 6125                         | 6217                        | 214                      | 205          | 359                                   | 366    | 383    | 398    | 575                          | 389                                                        | 398    | 426  | 453   | 503   | 557   |
| 245                                                   | 186 | 148.8 | 7595                         | 7709                        | 214                      | 205          | 359                                   | 366    | 383    | 398    | 575                          | 389                                                        | 398    | 426  | 453   | 503   | 557   |
| 245                                                   | 192 | 153.6 | 6125                         | 6217                        | 221                      | 211          | 371                                   | 378    | 396    | 411    | 594                          | 402                                                        | 411    | 439  | 468   | 519   | 575   |
| 245                                                   | 192 | 153.6 | 7595                         | 7709                        | 221                      | 211          | 371                                   | 378    | 396    | 411    | 594                          | 402                                                        | 411    | 439  | 468   | 519   | 575   |
| 245                                                   | 198 | 158.4 | 6125                         | 6217                        | 228                      | 218          | 382                                   | 390    | 408    | 424    | 612                          | 415                                                        | 424    | 453  | 482   | 535   | 593   |
| 245                                                   | 198 | 158.4 | 7595                         | 7709                        | 228                      | 218          | 382                                   | 390    | 408    | 424    | 612                          | 415                                                        | 424    | 453  | 482   | 535   | 593   |
| 245                                                   | 210 | 168   | 6125                         | 6217                        | 242                      | 231          | 405                                   | 414    | 433    | 450    | 649                          | 440                                                        | 449    | 481  | 512   | 568   | 629   |
| 245                                                   | 210 | 168   | 7595                         | 7709                        | 242                      | 231          | 405                                   | 414    | 433    | 450    | 649                          | 440                                                        | 449    | 481  | 512   | 568   | 629   |
| 245                                                   | 216 | 172.8 | 6125                         | 6217                        | 248                      | 238          | 417                                   | 426    | 445    | 463    | 668                          | 452                                                        | 462    | 494  | 526   | 584   | 647   |
| 245                                                   | 216 | 172.8 | 7595                         | 7709                        | 248                      | 238          | 417                                   | 426    | 445    | 463    | 668                          | 452                                                        | 462    | 494  | 526   | 584   | 647   |
| 245                                                   | 222 | 177.6 | 6125                         | 6217                        | 255                      | 244          | 429                                   | 437    | 458    | 475    | 686                          | 465                                                        | 475    | 508  | 541   | 600   | 665   |
| 245                                                   | 222 | 177.6 | 7595                         | 7709                        | 255                      | 244          | 429                                   | 437    | 458    | 475    | 686                          | 465                                                        | 475    | 508  | 541   | 600   | 665   |
| 245                                                   | 228 | 182.4 | 6125                         | 6217                        | 262                      | 251          | 440                                   | 449    | 470    | 488    | 705                          | 477                                                        | 488    | 522  | 555   | 617   | 683   |
| 245                                                   | 228 | 182.4 | 7595                         | 7709                        | 262                      | 251          | 440                                   | 449    | 470    | 488    | 705                          | 477                                                        | 488    | 522  | 555   | 617   | 683   |
| 300                                                   | 216 | 172.8 | 7500                         | 7613                        | 248                      | 238          | 417                                   | 426    | 445    | 463    | 668                          | 452                                                        | 462    | 494  | 526   | 584   | 647   |
| 300                                                   | 216 | 172.8 | 9300                         | 9440                        | 248                      | 238          | 417                                   | 426    | 445    | 463    | 668                          | 452                                                        | 462    | 494  | 526   | 584   | 647   |
| 300                                                   | 222 | 177.6 | 7500                         | 7613                        | 255                      | 244          | 429                                   | 437    | 458    | 475    | 686                          | 465                                                        | 475    | 508  | 541   | 600   | 665   |
| 300                                                   | 222 | 177.6 | 9300                         | 9440                        | 255                      | 244          | 429                                   | 437    | 458    | 475    | 686                          | 465                                                        | 475    | 508  | 541   | 600   | 665   |
| 300                                                   | 228 | 182.4 | 7500                         | 7613                        | 262                      | 251          | 440                                   | 449    | 470    | 488    | 705                          | 477                                                        | 488    | 522  | 555   | 617   | 683   |



## Class 4 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |        |        |        | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |      |       |       |       |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|--------|--------|--------|------------------------------|------------------------------------------------------------|--------|------|-------|-------|-------|
|                                                       |     |       |                              |                             |                          |              | .25 KA                                | .50 KA | 1.0 KA | 2.0 KA |                              |                                                            |        |      |       |       |       |
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | kV                                    | kV     | kV     | kV     | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA | 10 kA | 20 kA | 40 kA |
| 300                                                   | 228 | 182.4 | 9300                         | 9440                        | 262                      | 251          | 440                                   | 449    | 470    | 488    | 705                          | 477                                                        | 488    | 522  | 555   | 617   | 683   |
| 300                                                   | 240 | 192   | 7500                         | 7613                        | 276                      | 264          | 463                                   | 473    | 495    | 514    | 742                          | 503                                                        | 513    | 549  | 585   | 649   | 719   |
| 300                                                   | 240 | 192   | 9300                         | 9440                        | 276                      | 264          | 463                                   | 473    | 495    | 514    | 742                          | 503                                                        | 513    | 549  | 585   | 649   | 719   |
| 300                                                   | 258 | 206.4 | 7500                         | 7613                        | 297                      | 284          | 498                                   | 508    | 532    | 552    | 798                          | 540                                                        | 552    | 590  | 628   | 698   | 773   |
| 300                                                   | 258 | 206.4 | 9300                         | 9440                        | 297                      | 284          | 498                                   | 508    | 532    | 552    | 798                          | 540                                                        | 552    | 590  | 628   | 698   | 773   |
| 300                                                   | 264 | 211.2 | 7500                         | 7613                        | 304                      | 290          | 510                                   | 520    | 544    | 565    | 816                          | 553                                                        | 565    | 604  | 643   | 714   | 791   |
| 300                                                   | 264 | 211.2 | 9300                         | 9440                        | 304                      | 290          | 510                                   | 520    | 544    | 565    | 816                          | 553                                                        | 565    | 604  | 643   | 714   | 791   |
| 300                                                   | 276 | 220.8 | 7500                         | 7613                        | 317                      | 304          | 533                                   | 544    | 569    | 591    | 853                          | 578                                                        | 590    | 632  | 672   | 746   | 827   |
| 300                                                   | 276 | 220.8 | 9300                         | 9440                        | 317                      | 304          | 533                                   | 544    | 569    | 591    | 853                          | 578                                                        | 590    | 632  | 672   | 746   | 827   |
| 362                                                   | 258 | 206.4 | 9050                         | 9186                        | 297                      | 284          | 498                                   | 508    | 532    | 552    | 798                          | 540                                                        | 552    | 590  | 628   | 698   | 773   |
| 362                                                   | 258 | 206.4 | 11222                        | 11390                       | 297                      | 284          | 498                                   | 508    | 532    | 552    | 798                          | 540                                                        | 552    | 590  | 628   | 698   | 773   |
| 362                                                   | 264 | 211.2 | 9050                         | 9186                        | 304                      | 290          | 510                                   | 520    | 544    | 565    | 816                          | 553                                                        | 565    | 604  | 643   | 714   | 791   |
| 362                                                   | 264 | 211.2 | 11222                        | 11390                       | 304                      | 290          | 510                                   | 520    | 544    | 565    | 816                          | 553                                                        | 565    | 604  | 643   | 714   | 791   |
| 362                                                   | 276 | 220.8 | 9050                         | 9186                        | 317                      | 304          | 533                                   | 544    | 569    | 591    | 853                          | 578                                                        | 590    | 632  | 672   | 746   | 827   |
| 362                                                   | 276 | 220.8 | 11222                        | 11390                       | 317                      | 304          | 533                                   | 544    | 569    | 591    | 853                          | 578                                                        | 590    | 632  | 672   | 746   | 827   |
| 362                                                   | 288 | 230.4 | 9050                         | 9186                        | 331                      | 317          | 556                                   | 567    | 594    | 617    | 890                          | 603                                                        | 616    | 659  | 702   | 779   | 863   |
| 362                                                   | 288 | 230.4 | 11222                        | 11390                       | 331                      | 317          | 556                                   | 567    | 594    | 617    | 890                          | 603                                                        | 616    | 659  | 702   | 779   | 863   |
| 420                                                   | 312 | 249.6 | 10500                        | 10658                       | 359                      | 343          | 602                                   | 615    | 643    | 668    | 964                          | 653                                                        | 667    | 714  | 760   | 844   | 935   |
| 420                                                   | 312 | 249.6 | 13020                        | 13215                       | 359                      | 343          | 602                                   | 615    | 643    | 668    | 964                          | 653                                                        | 667    | 714  | 760   | 844   | 935   |
| 420                                                   | 330 | 264   | 10500                        | 10658                       | 380                      | 363          | 637                                   | 650    | 680    | 707    | 1020                         | 691                                                        | 706    | 755  | 804   | 892   | 989   |
| 420                                                   | 330 | 264   | 13020                        | 13215                       | 380                      | 363          | 637                                   | 650    | 680    | 707    | 1020                         | 691                                                        | 706    | 755  | 804   | 892   | 989   |
| 420                                                   | 336 | 268.8 | 10500                        | 10658                       | 386                      | 370          | 649                                   | 662    | 692    | 719    | 1039                         | 704                                                        | 719    | 769  | 818   | 909   | 1007  |
| 420                                                   | 336 | 268.8 | 13020                        | 13215                       | 386                      | 370          | 649                                   | 662    | 692    | 719    | 1039                         | 704                                                        | 719    | 769  | 818   | 909   | 1007  |
| 420                                                   | 342 | 273.6 | 10500                        | 10658                       | 393                      | 376          | 660                                   | 674    | 705    | 732    | 1057                         | 716                                                        | 732    | 783  | 833   | 925   | 1025  |
| 420                                                   | 342 | 273.6 | 13020                        | 13215                       | 393                      | 376          | 660                                   | 674    | 705    | 732    | 1057                         | 716                                                        | 732    | 783  | 833   | 925   | 1025  |
| 420                                                   | 360 | 288   | 10500                        | 10658                       | 414                      | 396          | 695                                   | 709    | 742    | 771    | 1113                         | 754                                                        | 770    | 824  | 877   | 974   | 1079  |
| 420                                                   | 360 | 288   | 13020                        | 13215                       | 414                      | 396          | 695                                   | 709    | 742    | 771    | 1113                         | 754                                                        | 770    | 824  | 877   | 974   | 1079  |
| 420                                                   | 372 | 297.6 | 10500                        | 10658                       | 428                      | 409          | 718                                   | 733    | 767    | 797    | 1150                         | 779                                                        | 796    | 851  | 906   | 1006  | 1114  |
| 420                                                   | 372 | 297.6 | 13020                        | 13215                       | 428                      | 409          | 718                                   | 733    | 767    | 797    | 1150                         | 779                                                        | 796    | 851  | 906   | 1006  | 1114  |
| 420                                                   | 378 | 302.4 | 10500                        | 10658                       | 435                      | 416          | 730                                   | 745    | 779    | 809    | 1168                         | 792                                                        | 809    | 865  | 921   | 1022  | 1132  |
| 420                                                   | 378 | 302.4 | 13020                        | 13215                       | 435                      | 416          | 730                                   | 745    | 779    | 809    | 1168                         | 792                                                        | 809    | 865  | 921   | 1022  | 1132  |
| 420                                                   | 390 | 312   | 10500                        | 10658                       | 449                      | 429          | 753                                   | 768    | 804    | 835    | 1206                         | 817                                                        | 834    | 892  | 950   | 1055  | 1168  |
| 420                                                   | 390 | 312   | 13020                        | 13215                       | 449                      | 429          | 753                                   | 768    | 804    | 835    | 1206                         | 817                                                        | 834    | 892  | 950   | 1055  | 1168  |
| 420                                                   | 396 | 316.8 | 10500                        | 10658                       | 455                      | 436          | 764                                   | 780    | 816    | 848    | 1224                         | 829                                                        | 847    | 906  | 965   | 1071  | 1186  |
| 420                                                   | 396 | 316.8 | 13020                        | 13215                       | 455                      | 436          | 764                                   | 780    | 816    | 848    | 1224                         | 829                                                        | 847    | 906  | 965   | 1071  | 1186  |
| 420                                                   | 420 | 336   | 10500                        | 10658                       | 483                      | 462          | 811                                   | 828    | 866    | 899    | 1298                         | 880                                                        | 899    | 961  | 1023  | 1136  | 1258  |
| 420                                                   | 420 | 336   | 13020                        | 13215                       | 483                      | 462          | 811                                   | 828    | 866    | 899    | 1298                         | 880                                                        | 899    | 961  | 1023  | 1136  | 1258  |
| 550                                                   | 420 | 336   | 13750                        | 13956                       | 483                      | 462          | 811                                   | 828    | 866    | 899    | 1298                         | 880                                                        | 899    | 961  | 1023  | 1136  | 1258  |
| 550                                                   | 420 | 336   | 17050                        | 17306                       | 483                      | 462          | 811                                   | 828    | 866    | 899    | 1298                         | 880                                                        | 899    | 961  | 1023  | 1136  | 1258  |



## Class 5 Ratings (Porcelain and Polymer)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |           |           |           | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |      |       |       |       |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|-----------|-----------|-----------|------------------------------|------------------------------------------------------------|--------|------|-------|-------|-------|
| Um                                                    | Ur  | Uc    |                              |                             | 1s<br>kVrms              | 10s<br>kVrms | .25<br>KA                             | .50<br>KA | 1.0<br>KA | 2.0<br>KA |                              | 1.5 KA                                                     | 2.5 KA | 5 KA | 10 KA | 20 KA | 40 KA |
| 170                                                   | 150 | 120   | 4250                         | 4314                        | 173                      | 165          | 288                                   | 292       | 300       | 306       | 418                          | 300                                                        | 299.4  | 323  | 343   | 374   | 411   |
| 170                                                   | 150 | 120   | 5270                         | 5349                        | 173                      | 165          | 288                                   | 292       | 300       | 306       | 418                          | 300                                                        | 299.4  | 323  | 343   | 374   | 411   |
| 170                                                   | 168 | 134.4 | 4250                         | 4314                        | 193                      | 185          | 322                                   | 327       | 336       | 343       | 468                          | 336                                                        | 335.3  | 362  | 384   | 418   | 460   |
| 170                                                   | 168 | 134.4 | 5270                         | 5349                        | 193                      | 185          | 322                                   | 327       | 336       | 343       | 468                          | 336                                                        | 335.3  | 362  | 384   | 418   | 460   |
| 170                                                   | 174 | 139.2 | 4250                         | 4314                        | 200                      | 191          | 334                                   | 339       | 348       | 355       | 485                          | 348                                                        | 347.3  | 375  | 398   | 433   | 476   |
| 170                                                   | 174 | 139.2 | 5270                         | 5349                        | 200                      | 191          | 334                                   | 339       | 348       | 355       | 485                          | 348                                                        | 347.3  | 375  | 398   | 433   | 476   |
| 245                                                   | 180 | 144   | 6125                         | 6217                        | 207                      | 198          | 345                                   | 351       | 360       | 368       | 502                          | 360                                                        | 359.3  | 388  | 411   | 448   | 493   |
| 245                                                   | 180 | 144   | 7595                         | 7709                        | 207                      | 198          | 345                                   | 351       | 360       | 368       | 502                          | 360                                                        | 359.3  | 388  | 411   | 448   | 493   |
| 245                                                   | 186 | 148.8 | 6125                         | 6217                        | 214                      | 205          | 357                                   | 362       | 372       | 380       | 518                          | 372                                                        | 371.3  | 401  | 425   | 463   | 509   |
| 245                                                   | 186 | 148.8 | 7595                         | 7709                        | 214                      | 205          | 357                                   | 362       | 372       | 380       | 518                          | 372                                                        | 371.3  | 401  | 425   | 463   | 509   |
| 245                                                   | 192 | 153.6 | 6125                         | 6217                        | 221                      | 211          | 368                                   | 374       | 384       | 392       | 535                          | 384                                                        | 383.2  | 414  | 439   | 478   | 525   |
| 245                                                   | 192 | 153.6 | 7595                         | 7709                        | 221                      | 211          | 368                                   | 374       | 384       | 392       | 535                          | 384                                                        | 383.2  | 414  | 439   | 478   | 525   |
| 245                                                   | 198 | 158.4 | 6125                         | 6217                        | 228                      | 218          | 380                                   | 386       | 396       | 404       | 552                          | 396                                                        | 395.2  | 427  | 453   | 493   | 542   |
| 245                                                   | 198 | 158.4 | 7595                         | 7709                        | 228                      | 218          | 380                                   | 386       | 396       | 404       | 552                          | 396                                                        | 395.2  | 427  | 453   | 493   | 542   |
| 245                                                   | 210 | 168   | 6125                         | 6217                        | 242                      | 231          | 403                                   | 409       | 420       | 429       | 585                          | 420                                                        | 419.2  | 453  | 480   | 523   | 575   |
| 245                                                   | 210 | 168   | 7595                         | 7709                        | 242                      | 231          | 403                                   | 409       | 420       | 429       | 585                          | 420                                                        | 419.2  | 453  | 480   | 523   | 575   |
| 245                                                   | 216 | 172.8 | 6125                         | 6217                        | 248                      | 238          | 414                                   | 421       | 432       | 441       | 602                          | 432                                                        | 431.1  | 466  | 494   | 538   | 591   |
| 245                                                   | 216 | 172.8 | 7595                         | 7709                        | 248                      | 238          | 414                                   | 421       | 432       | 441       | 602                          | 432                                                        | 431.1  | 466  | 494   | 538   | 591   |
| 245                                                   | 219 | 175.2 | 6125                         | 6217                        | 252                      | 241          | 420                                   | 427       | 438       | 447       | 610                          | 438                                                        | 437.1  | 472  | 501   | 545   | 599   |
| 245                                                   | 219 | 175.2 | 7595                         | 7709                        | 252                      | 241          | 420                                   | 427       | 438       | 447       | 610                          | 438                                                        | 437.1  | 472  | 501   | 545   | 599   |
| 245                                                   | 228 | 182.4 | 6125                         | 6217                        | 262                      | 251          | 437                                   | 444       | 456       | 466       | 635                          | 456                                                        | 455.1  | 491  | 521   | 568   | 624   |
| 245                                                   | 228 | 182.4 | 7595                         | 7709                        | 262                      | 251          | 437                                   | 444       | 456       | 466       | 635                          | 456                                                        | 455.1  | 491  | 521   | 568   | 624   |
| 300                                                   | 216 | 172.8 | 7500                         | 7613                        | 248                      | 238          | 414                                   | 421       | 432       | 441       | 602                          | 432                                                        | 431.1  | 466  | 494   | 538   | 591   |
| 300                                                   | 216 | 172.8 | 9300                         | 9440                        | 248                      | 238          | 414                                   | 421       | 432       | 441       | 602                          | 432                                                        | 431.1  | 466  | 494   | 538   | 591   |
| 300                                                   | 219 | 175.2 | 7500                         | 7613                        | 252                      | 241          | 420                                   | 427       | 438       | 447       | 610                          | 438                                                        | 437.1  | 472  | 501   | 545   | 599   |
| 300                                                   | 219 | 175.2 | 9300                         | 9440                        | 252                      | 241          | 420                                   | 427       | 438       | 447       | 610                          | 438                                                        | 437.1  | 472  | 501   | 545   | 599   |
| 300                                                   | 228 | 182.4 | 7500                         | 7613                        | 262                      | 251          | 437                                   | 444       | 456       | 466       | 635                          | 456                                                        | 455.1  | 491  | 521   | 568   | 624   |
| 300                                                   | 228 | 182.4 | 9300                         | 9440                        | 262                      | 251          | 437                                   | 444       | 456       | 466       | 635                          | 456                                                        | 455.1  | 491  | 521   | 568   | 624   |
| 300                                                   | 240 | 192   | 7500                         | 7613                        | 276                      | 264          | 460                                   | 468       | 480       | 490       | 669                          | 480                                                        | 479    | 517  | 549   | 598   | 657   |
| 300                                                   | 240 | 192   | 9300                         | 9440                        | 276                      | 264          | 460                                   | 468       | 480       | 490       | 669                          | 480                                                        | 479    | 517  | 549   | 598   | 657   |
| 300                                                   | 246 | 196.8 | 7500                         | 7613                        | 283                      | 271          | 472                                   | 479       | 492       | 503       | 686                          | 492                                                        | 491    | 530  | 562   | 613   | 673   |
| 300                                                   | 246 | 196.8 | 9300                         | 9440                        | 283                      | 271          | 472                                   | 479       | 492       | 503       | 686                          | 492                                                        | 491    | 530  | 562   | 613   | 673   |
| 300                                                   | 258 | 206.4 | 7500                         | 7613                        | 297                      | 284          | 495                                   | 503       | 516       | 527       | 719                          | 515                                                        | 515    | 556  | 590   | 643   | 706   |
| 300                                                   | 258 | 206.4 | 9300                         | 9440                        | 297                      | 284          | 495                                   | 503       | 516       | 527       | 719                          | 515                                                        | 515    | 556  | 590   | 643   | 706   |
| 300                                                   | 264 | 211.2 | 7500                         | 7613                        | 304                      | 290          | 506                                   | 514       | 528       | 539       | 736                          | 527                                                        | 526.9  | 569  | 603   | 657   | 722   |
| 300                                                   | 264 | 211.2 | 9300                         | 9440                        | 304                      | 290          | 506                                   | 514       | 528       | 539       | 736                          | 527                                                        | 526.9  | 569  | 603   | 657   | 722   |
| 300                                                   | 276 | 220.8 | 7500                         | 7613                        | 317                      | 304          | 529                                   | 538       | 552       | 564       | 769                          | 551                                                        | 550.9  | 595  | 631   | 687   | 755   |
| 300                                                   | 276 | 220.8 | 9300                         | 9440                        | 317                      | 304          | 529                                   | 538       | 552       | 564       | 769                          | 551                                                        | 550.9  | 595  | 631   | 687   | 755   |

## Class 5 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |                 |                 |                 | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |        |        |        |        |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|-----------------|-----------------|-----------------|------------------------------|------------------------------------------------------------|--------|--------|--------|--------|--------|
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | .25<br>KA<br>kV                       | .50<br>KA<br>kV | 1.0<br>KA<br>kV | 2.0<br>KA<br>kV | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA   | 10 kA  | 20 kA  | 40 kA  |
| 800                                                   | 570 | 456   | 20000                        | 22330                       | 656                      | 627          | 1077                                  | 1094            | 1123            | 1147            | 1603                         | 1128.6                                                     | 1137.7 | 1217.5 | 1291.1 | 1406.8 | 1545.8 |
| 800                                                   | 570 | 456   | 24800                        | 27689                       | 656                      | 627          | 1077                                  | 1094            | 1123            | 1147            | 1603                         | 1128.6                                                     | 1137.7 | 1217.5 | 1291.1 | 1406.8 | 1545.8 |
| 800                                                   | 588 | 470.4 | 20000                        | 22330                       | 676                      | 647          | 1111                                  | 1129            | 1158            | 1184            | 1654                         | 1164.2                                                     | 1173.6 | 1256   | 1331.8 | 1451.2 | 1594.7 |
| 800                                                   | 588 | 470.4 | 24800                        | 27689                       | 676                      | 647          | 1111                                  | 1129            | 1158            | 1184            | 1654                         | 1164.2                                                     | 1173.6 | 1256   | 1331.8 | 1451.2 | 1594.7 |
| 800                                                   | 612 | 489.6 | 20000                        | 22330                       | 704                      | 673          | 1157                                  | 1175            | 1206            | 1232            | 1722                         | 1211.8                                                     | 1221.6 | 1307.2 | 1386.2 | 1510.4 | 1659.7 |
| 800                                                   | 612 | 489.6 | 24800                        | 27689                       | 704                      | 673          | 1157                                  | 1175            | 1206            | 1232            | 1722                         | 1211.8                                                     | 1221.6 | 1307.2 | 1386.2 | 1510.4 | 1659.7 |
| 800                                                   | 624 | 499.2 | 20000                        | 22330                       | 718                      | 686          | 1179                                  | 1198            | 1229            | 1256            | 1755                         | 1235.5                                                     | 1245.5 | 1332.9 | 1413.4 | 1540   | 1692.3 |
| 800                                                   | 624 | 499.2 | 24800                        | 27689                       | 718                      | 686          | 1179                                  | 1198            | 1229            | 1256            | 1755                         | 1235.5                                                     | 1245.5 | 1332.9 | 1413.4 | 1540   | 1692.3 |



## Class 5 Ratings (Porcelain and Polymer) (Cont'd)

| IEC60099-4<br>CLASS 4<br>IEEE C62.11<br>STATION CLASS |     |       | MINIMUM<br>DESIGNED<br>CREEP | ACTUAL<br>DESIGNED<br>CREEP | IEC PREVIOUS<br>DUTY TOV |              | SWITCHING IMPULSE<br>RESIDUAL VOLTAGE |                 |                 |                 | FRONT<br>OF<br>WAVE<br>.5 US | MAXIMUM 8/20 RESIDUAL VOLTAGE AT<br>INDICATED CURRENT (KV) |        |        |        |        |        |
|-------------------------------------------------------|-----|-------|------------------------------|-----------------------------|--------------------------|--------------|---------------------------------------|-----------------|-----------------|-----------------|------------------------------|------------------------------------------------------------|--------|--------|--------|--------|--------|
| Um                                                    | Ur  | Uc    | mm                           | mm                          | 1s<br>kVrms              | 10s<br>kVrms | .25<br>KA<br>kV                       | .50<br>KA<br>kV | 1.0<br>KA<br>kV | 2.0<br>KA<br>kV | kV                           | 1.5 kA                                                     | 2.5 kA | 5 kA   | 10 kA  | 20 kA  | 40 kA  |
| 800                                                   | 570 | 456   | 20000                        | 22330                       | 656                      | 627          | 1077                                  | 1094            | 1123            | 1147            | 1603                         | 1128.6                                                     | 1137.7 | 1217.5 | 1291.1 | 1406.8 | 1545.8 |
| 800                                                   | 570 | 456   | 24800                        | 27689                       | 656                      | 627          | 1077                                  | 1094            | 1123            | 1147            | 1603                         | 1128.6                                                     | 1137.7 | 1217.5 | 1291.1 | 1406.8 | 1545.8 |
| 800                                                   | 588 | 470.4 | 20000                        | 22330                       | 676                      | 647          | 1111                                  | 1129            | 1158            | 1184            | 1654                         | 1164.2                                                     | 1173.6 | 1256   | 1331.8 | 1451.2 | 1594.7 |
| 800                                                   | 588 | 470.4 | 24800                        | 27689                       | 676                      | 647          | 1111                                  | 1129            | 1158            | 1184            | 1654                         | 1164.2                                                     | 1173.6 | 1256   | 1331.8 | 1451.2 | 1594.7 |
| 800                                                   | 612 | 489.6 | 20000                        | 22330                       | 704                      | 673          | 1157                                  | 1175            | 1206            | 1232            | 1722                         | 1211.8                                                     | 1221.6 | 1307.2 | 1386.2 | 1510.4 | 1659.7 |
| 800                                                   | 612 | 489.6 | 24800                        | 27689                       | 704                      | 673          | 1157                                  | 1175            | 1206            | 1232            | 1722                         | 1211.8                                                     | 1221.6 | 1307.2 | 1386.2 | 1510.4 | 1659.7 |
| 800                                                   | 624 | 499.2 | 20000                        | 22330                       | 718                      | 686          | 1179                                  | 1198            | 1229            | 1256            | 1755                         | 1235.5                                                     | 1245.5 | 1332.9 | 1413.4 | 1540   | 1692.3 |
| 800                                                   | 624 | 499.2 | 24800                        | 27689                       | 718                      | 686          | 1179                                  | 1198            | 1229            | 1256            | 1755                         | 1235.5                                                     | 1245.5 | 1332.9 | 1413.4 | 1540   | 1692.3 |