

# Eaton's Bussmann series 36 kV Medium voltage fuse links



## Product description

Eaton's Bussmann series range of 36 kV DIN Medium voltage fuse links are suitable for transformer protection.

These fuse links can be used even where there is no secondary LV protection, provided they are used with fuse switches fitted with instantaneous striker tripping.

## Standard features

- Cool running, low watts loss and power dissipation thanks to the M-effect ensuring high levels of substation utilisation.
- Silver elements ensuring high conductivity and low power (revenue) loss.
- 100% X-ray, all our medium voltage fuse links are X-rayed ensuring the highest possible standards are maintained.

**Catalogue symbol:**

- 36TDQSJ(amp)
- 36TFQSJ(amp)
- 36TXQEJ(amp)

**Technical data:**

- Volts: 36 kV
- Amps: 3.15 to 63 A
- Breaking capacity: 20 to 35.5 kA
- Class of operation: Back-up as IEC 60282-1 (2005)
- Suitable for outdoor and indoor use
- RoHS compliant

**Standards/Approvals:**

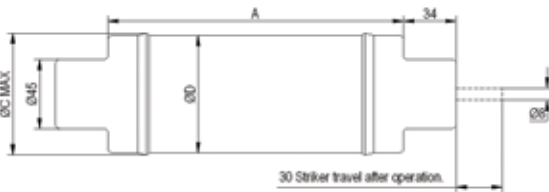
- DIN 43625
- VDE 0670 part 4 and 402
- IEC 60282-1 (2005)

**Packaging:**

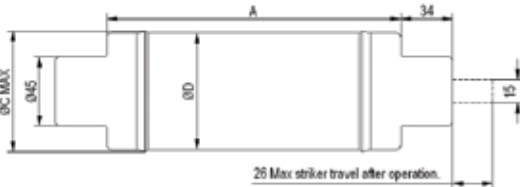
- MOQ 3

**Dimensions - mm**

EJ Outline



SJ Outline

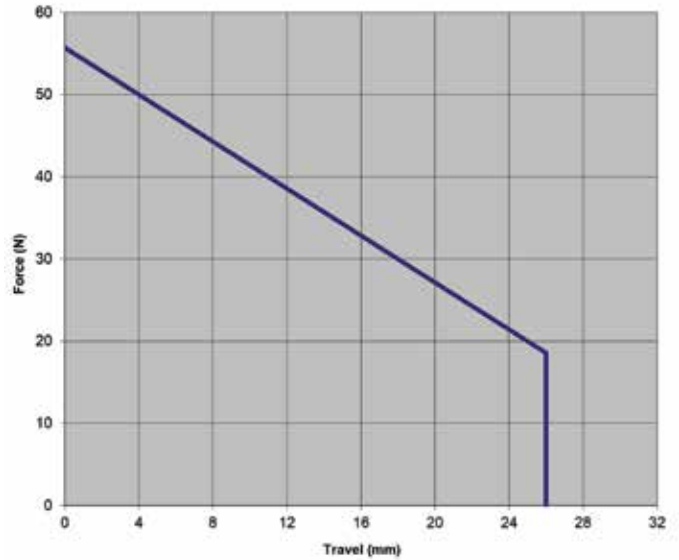


| Fuse reference | A   | C  | D  | Weight (Kg) |
|----------------|-----|----|----|-------------|
| TDQSJ          | 537 | 54 | 51 | 2.9         |
| TFQSJ          | 537 | 80 | 76 | 6           |
| TXQEJ          | 537 | 88 | 88 | 6.5         |

**Striker diagram**

S = Spring striker 50N to DIN 43625 and IEC 60282-1 designation 'medium'

Force x Travel diagram for 50N DIN striker



E = Spring striker 80N to IEC 60282-1 designation 'medium'

Force x Travel diagram for 80N DIN striker

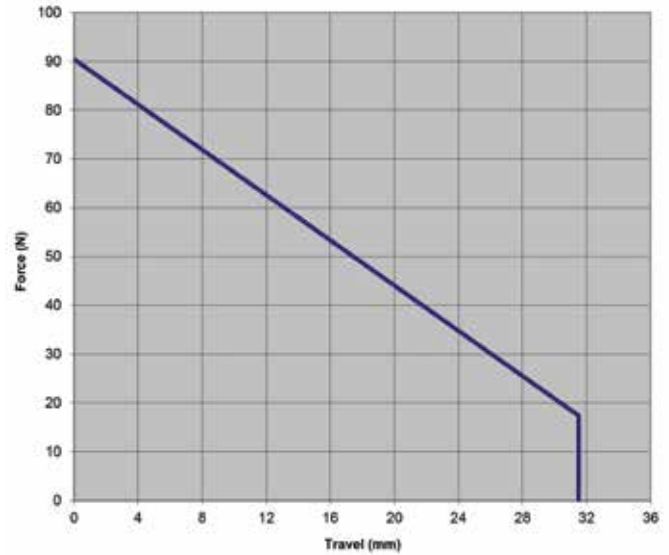


Table 1. Part numbers

| Part numbers | Current<br>$I_n$ (A) | Breaking<br>capacity $I_1$<br>(kA) | Minimum<br>breaking<br>current $I_3$<br>(A) | Cold resistance &<br>Watts loss in free air |     | Joule integral ( $I^2t$ ) |                      |              | Diameter<br>mm | Weight<br>kg |
|--------------|----------------------|------------------------------------|---|---|-----|---------------------------|----------------------|--------------|----------------|--------------|
|              |                      |                                    |   | mΩ  | W   | Minimum<br>Pre-arcing     | Maximum<br>operating | Length<br>mm |                |              |
| 36TDQ SJ3.15 | 3.15                 | 20                                 | 23  | 1455  | 18  | $2 \times 10^1$           | $2.4 \times 10^2$    | 537          | 51             | 2.9          |
| 36TDQ SJ6.3  | 6.3                  | 35.5                               | 23  | 684   | 34  | $1 \times 10^2$           | $1.2 \times 10^3$    | 537          | 51             | 2.9          |
| 36TDQ SJ10   | 10                   | 35.5                               | 35  | 402   | 44  | $3.1 \times 10^2$         | $3.6 \times 10^3$    | 537          | 51             | 2.9          |
| 36TDQ SJ16   | 16                   | 35.5                               | 70  | 165   | 52  | $4.6 \times 10^2$         | $5.1 \times 10^3$    | 537          | 51             | 2.9          |
| 36TDQ SJ20   | 20                   | 35.5                               | 98  | 117   | 62  | $8.9 \times 10^2$         | $8.2 \times 10^4$    | 537          | 51             | 2.9          |
| 36TDQ SJ25   | 25                   | 35.5                               | 112   | 98  | 85  | $1.2 \times 10^3$         | $1.5 \times 10^4$    | 537          | 51             | 2.9          |
| 36TFQ SJ31.5 | 31.5                 | 35.5                               | 116   | 73.4  | 96  | $2.1 \times 10^3$         | $2.3 \times 10^4$    | 537          | 51             | 6            |
| 36TFQ SJ40   | 40                   | 35.5                               | 178   | 52.4  | 116 | $4.1 \times 10^3$         | $3.9 \times 10^4$    | 537          | 76             | 6            |
| 36TFQ SJ50   | 50                   | 35.5                               | 255   | 36.8  | 133 | $8.3 \times 10^3$         | $8.1 \times 10^4$    | 537          | 76             | 6            |
| 36TXQEJ63*   | 63                   | 20                                 | 360   | 35  | 271 | $1.1 \times 10^4$         | $6.2 \times 10^4$    | 537          | 88             | 6.5          |

\* Not compliant with VDE 0670 part 402

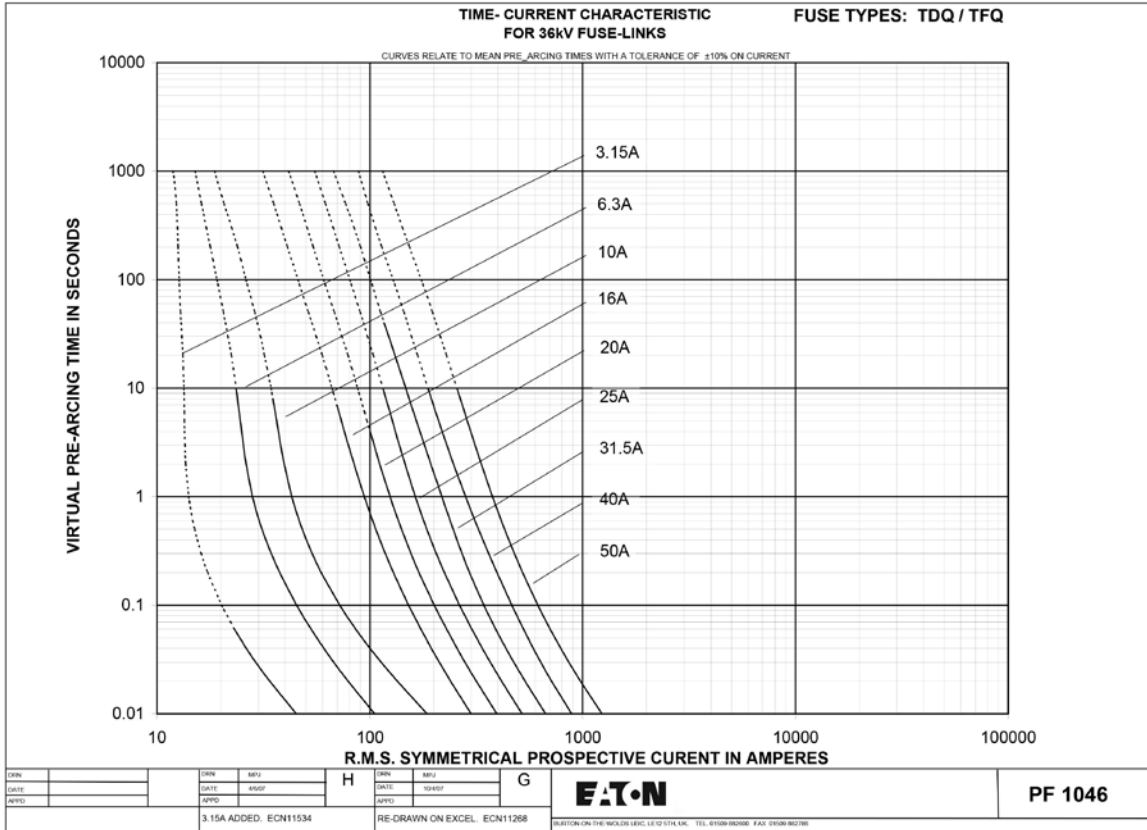
Table 2. Cross reference

| Eaton's<br>Bussmann<br>series | EFEN       | SIBA    | MESA       | ETI 80N<br>Striker | ETI 50N<br>Striker | Merlin Gerin | INAEL         | ABB             |
|-------------------------------|------------|---------|------------|--------------------|--------------------|--------------|---------------|-----------------|
| 36TDQ SJ3.15                  | N/A        | N/A     | N/A        | N/A                | N/A                | N/A          | N/A           | N/A             |
| 36TDQ SJ6.3                   | 67150.0060 | 3000813 | CF-36/6.3  | 4266005            | 4265005            | 51006 549 M0 | IB-D1         | 1YMB531006M0001 |
| 36TDQ SJ10                    | 67150.0100 | 3000813 | CF-36/10   | 4266006            | 4265006            | 51006 550 M0 | IB-D1         | 1YMB531006M0002 |
| 36TDQ SJ16                    | 67150.0160 | 3000813 | CF-36/16   | 4266007            | 4265007            | 51006 551 M0 | IB-D1         | 1YMB531006M0003 |
| 36TDQ SJ20                    | 67150.0200 | 3000813 | CF-36/20   | 4266008            | 4265008            | 51006 552 M0 | IB-D1 & IB-D2 | N/A             |
| 36TDQ SJ25                    | 67150.0250 | 3000813 | CF-36/25   | 4266009            | 4265009            | 51006 553 M0 | IB-D1 & IB-D2 | 1YMB531006M0004 |
| 36TFQ SJ31.5                  | 67150.0320 | 3001613 | CF-36/31.5 | 4266010            | 4265010            | 51006 554 M0 | IB-D2         | N/A             |
| 36TFQ SJ40                    | 67150.0400 | 3001613 | CF-36/40   | 4266011            | 4265011            | 51006 555 M0 | IB-D2         | 1YMB531006M0005 |
| 36TFQ SJ50                    | 67150.0500 | 3002413 | CF-36/50   | 4266012            | 4265012            | 51006 556 M0 | IB-D3         | N/A             |
| 36TXQEJ63                     | 67150.0630 | 3002413 | CF-36/63   | 4266013            | 4265013            | 51006 557 M0 | IB-D3         | N/A             |

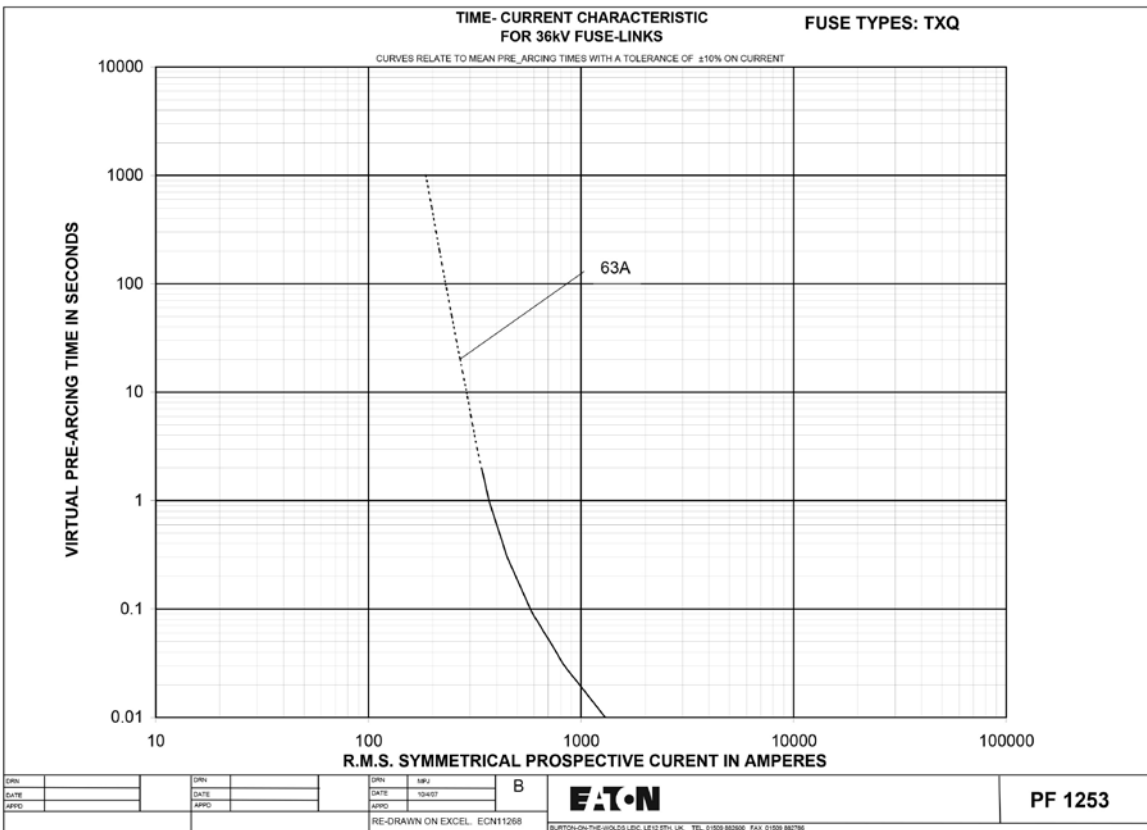
Table 3. Watts loss comparison

| Eaton's<br>Bussmann<br>series | Eaton's<br>Bussmann<br>series | EFEN | SIBA | MESA | ETI | Merlin Gerin | INAEL | ABB |
|-------------------------------|-------------------------------|------|------|------|-----|--------------|-------|-----|
| 36TDQ SJ3.15                  | N/A                           | N/A  | N/A  | N/A  | N/A | N/A          | N/A   | N/A |
| 36TDQ SJ6.3                   | 34                            | 39   | 42   | 39   | 41  | 39           | 32    | 137 |
| 36TDQ SJ10                    | 44                            | 65   | 70   | 50   | 27  | 50           | 55    | 93  |
| 36TDQ SJ16                    | 52                            | 67   | 79   | 98   | 46  | 98           | 82    | 109 |
| 36TDQ SJ20                    | 62                            | 84   | 66   | 120  | 66  | 120          | 85    | N/A |
| 36TDQ SJ25                    | 85                            | 100  | 87   | 133  | 85  | 133          | 87    | 144 |
| 36TFQ SJ31.5                  | 96                            | 119  | 102  | 171  | 113 | 171          | 125   | N/A |
| 36TFQ SJ40                    | 116                           | 176  | 144  | 207  | 134 | 207          | 164   | 176 |
| 36TFQ SJ50                    | 133                           | 183  | 186  | 198  | 112 | 198          | 195   | N/A |
| 36TXQEJ63                     | 271                           | 271  | 224  | 240  | 175 | 240          | 235   | N/A |

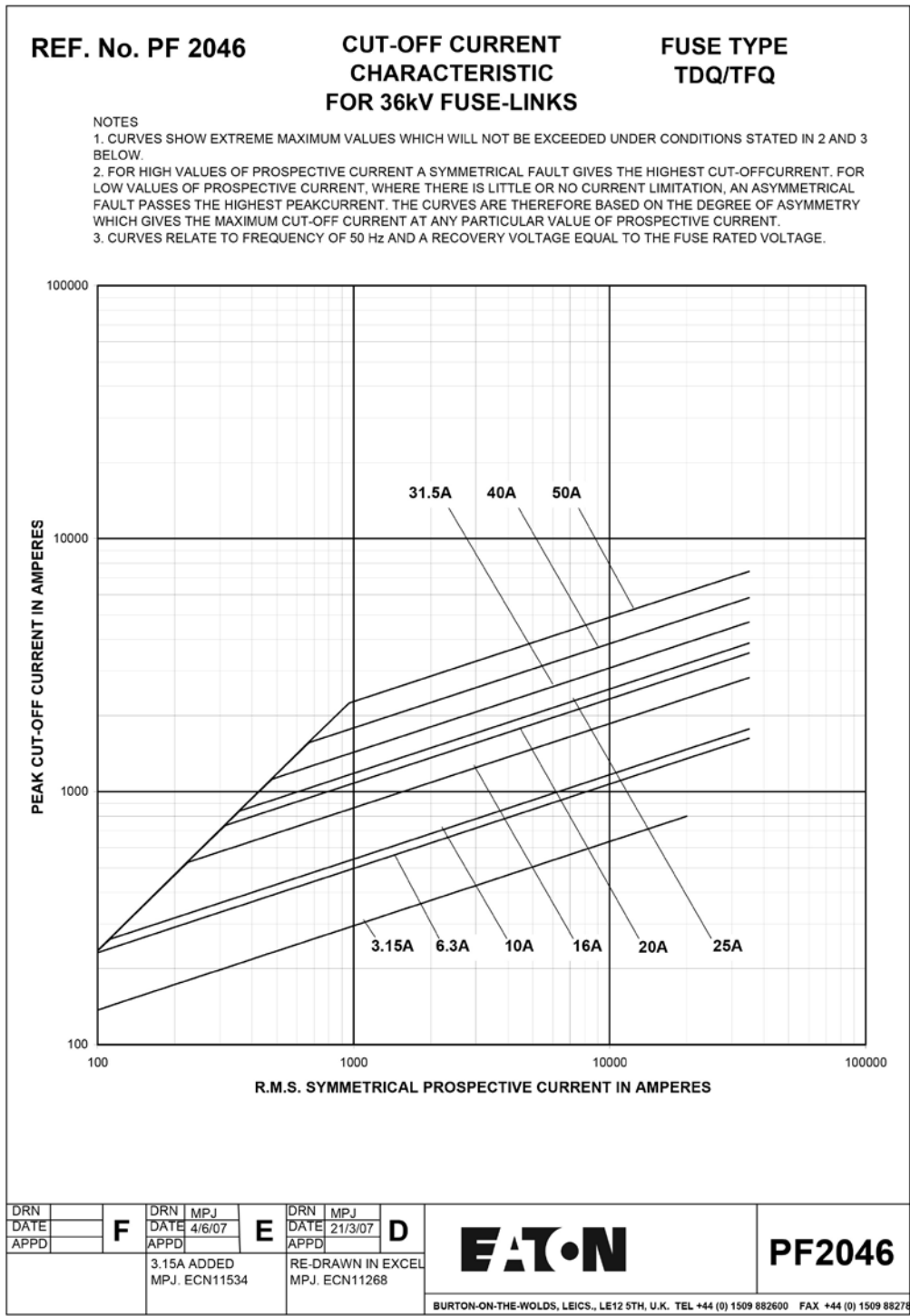
**Time current curve - Fuse types TDQ/TFQ**



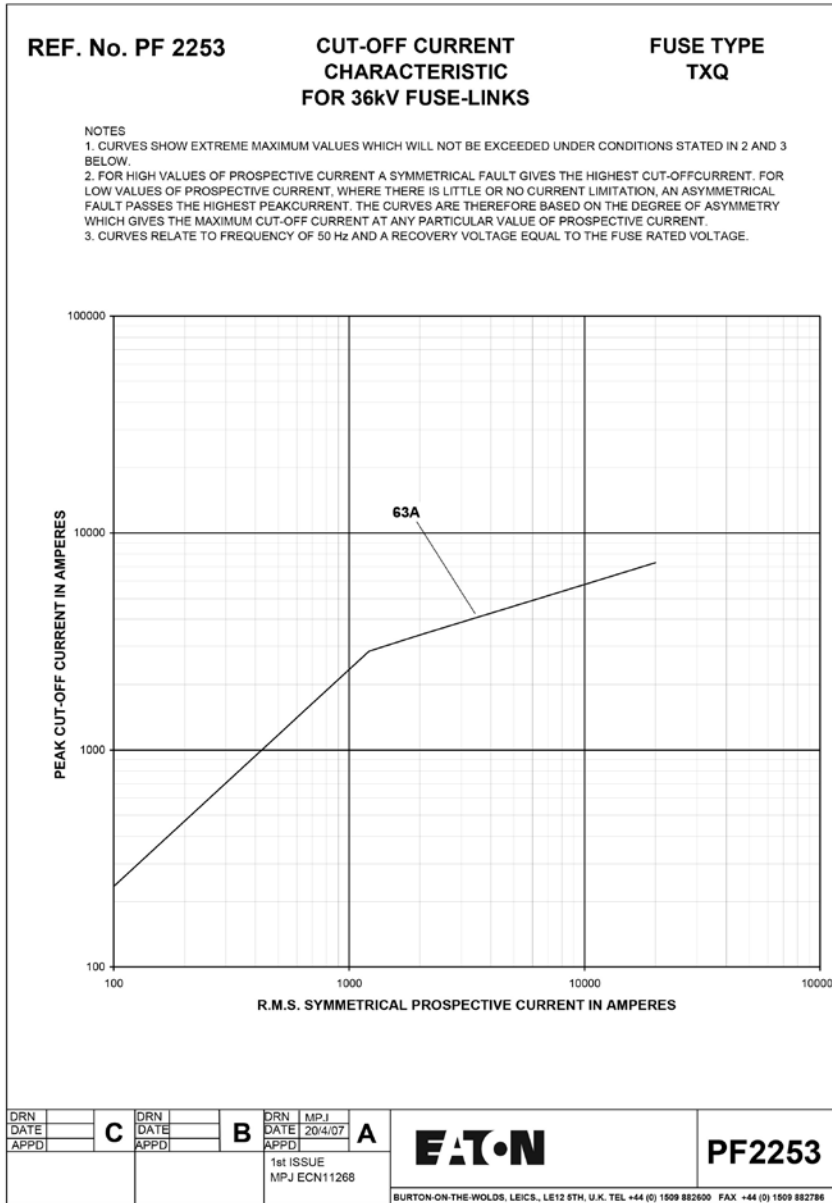
**Time current curve - Fuse type TXQ**



Cut-off curve - Fuse types TDQ/TFQ



Cut-off curve - Fuse type TXQ

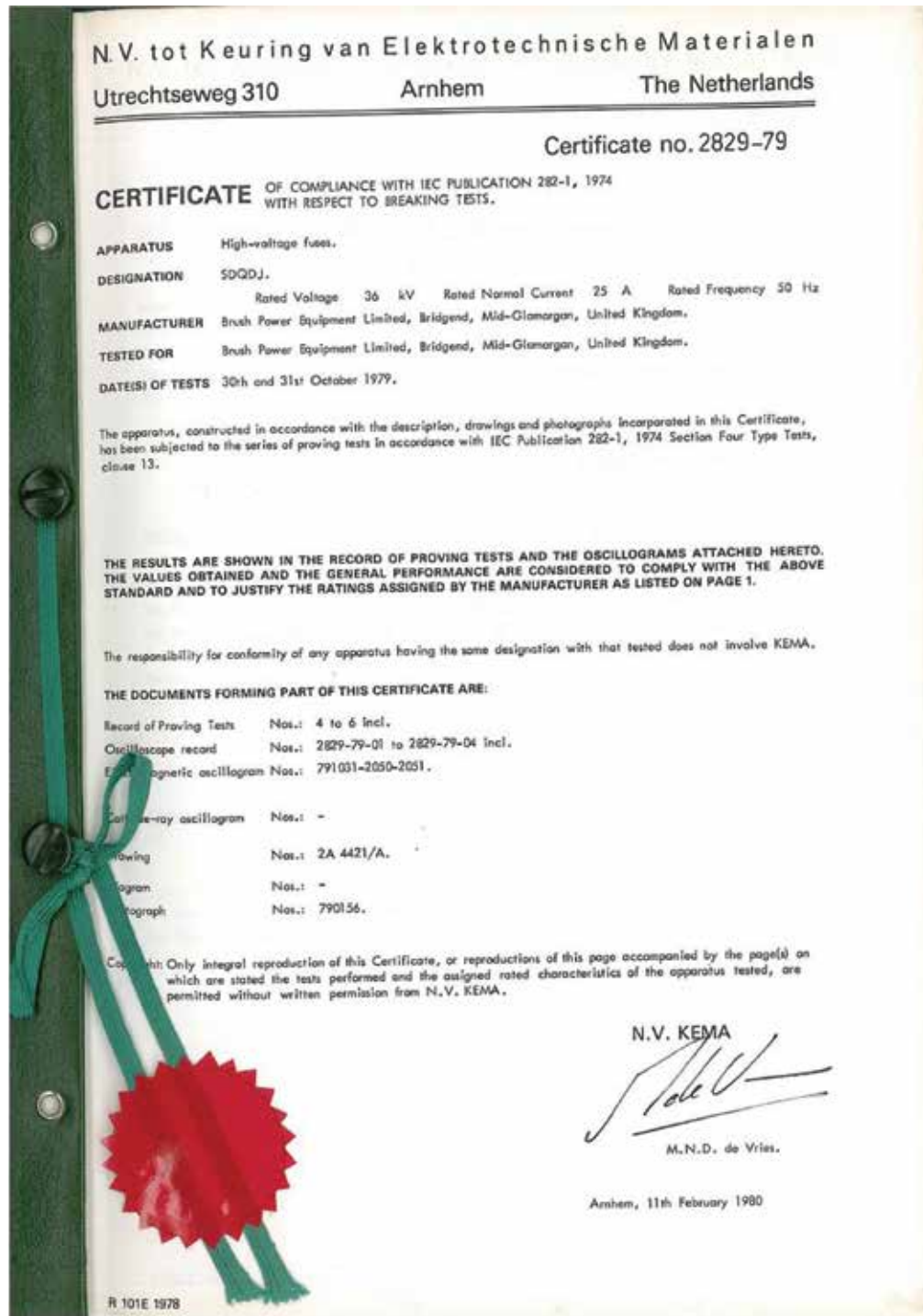


**KEMA certificate**



This certificate refers to SFQDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

**KEMA certificate**



This certificate refers to SDQDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.



**KEMA certificate**



This certificate refers to SFQDJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

**KEMA report**



This certificate refers to SFQAJ 36kV fuse links, which are electrically identical to the new T range, other than the fuses are sealed for outdoor use, have a brown ceramic body and use a 50N striker.

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