

Vulcan + Range-Taking Cable Cleat Data Sheet

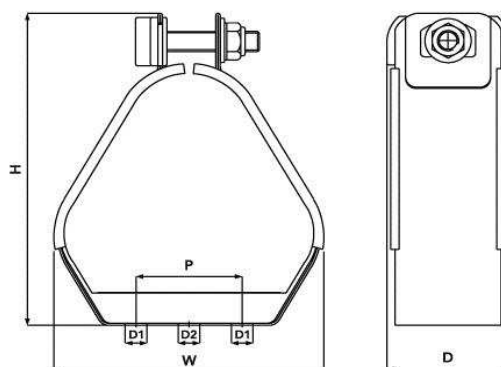
Vulcan + cable cleats are available for trefoil, single, quad and bundled cable applications where moderate levels of short circuit withstand are required. The unique patented compact design allows easy installation where space is limited. Manufactured in type 316L stainless steel, they offer ultimate protection against the harshest environmental conditions. The cleats are supplied with an M10 stainless steel clamping bolt, an M10 stainless steel Flange nut and a Low Smoke & Fume Zero Halogen Polymeric Head Retainer (MDS01 Data Sheet*).

To protect and cushion the cables during short circuit conditions, the cleat comes with an integral Low Smoke & Fume Zero Halogen Polymeric liner and removable base pad (MDS01 Data Sheet*).

Recommended fixing methods include using either one or two M10 bolts (available as extras). A ProTect Intermediate Strap (details from Ellis Patents) can be fitted between wider spaced cleats for more economical installation.

* Material Data Sheet MDS01 is available upon request.

UK Patent GB 236 1029



Selection Table for Trefoil & Single Application

| Part No | Trefoil Cable Range | | Single Cable Range | | Dimensions | | | | | Weight g |
|---------|---------------------|-------------|--------------------|-------------|------------|-----------|------|------|------------|----------|
| | Min Dia. mm | Max Dia. mm | Min Dia. Mm | Max Dia. mm | W(max) mm | H(max) mm | D mm | P mm | Base Holes | |
| VRT+00 | 19 | 24 | 30 | 42 | 60 | 93 | 54 | n/a | 1 x M10 | 251 |
| VRT+01 | 23 | 28 | 38 | 50 | 63 | 98 | 54 | n/a | 1 x M10 | 258 |
| VRT+02 | 27 | 32 | 43 | 58 | 72 | 106 | 54 | n/a | 1 x M10 | 269 |
| VRT+03 | 30 | 35 | 49 | 64 | 79 | 112 | 54 | n/a | 1 x M10 | 279 |
| VRT+04 | 33 | 38 | 55 | 70 | 85 | 118 | 54 | n/a | 1 x M10 | 284 |
| VRT+05 | 36 | 42 | 58 | 75 | 96 | 125 | 54 | n/a | 1 x M10 | 319 |
| VRT+06 | 40 | 46 | 63 | 84 | 105 | 133 | 54 | n/a | 1 x M10 | 331 |
| VRT+07 | 44 | 50 | 73 | 90 | 112 | 140 | 54 | n/a | 1 x M10 | 391 |
| VRT+08 | 48 | 55 | 83 | 100 | 121 | 149 | 54 | n/a | 1 x M10 | 405 |
| VRT+09 | 51 | 58 | 86 | 104 | 126 | 154 | 54 | n/a | 1 x M10 | 411 |
| VRT+10 | 55 | 62 | 88 | 110 | 134 | 162 | 54 | 50 | 3 x M10 | 442 |
| VRT+11 | 59 | 66 | 90 | 115 | 143 | 170 | 54 | 50 | 3 x M10 | 453 |
| VRT+12 | 63 | 70 | 100 | 125 | 152 | 177 | 54 | 50 | 3 x M10 | 460 |
| VRT+13 | 67 | 74 | 107 | 132 | 161 | 185 | 54 | 75 | 3 x M10 | 524 |
| VRT+14 | 71 | 78 | 120 | 145 | 169 | 192 | 54 | 75 | 3 x M10 | 536 |
| VRT+15 | 74 | 82 | 125 | 150 | 176 | 199 | 54 | 75 | 3 x M10 | 542 |
| VRT+16 | 77 | 85 | 132 | 153 | 183 | 205 | 54 | 75 | 3 x M10 | 544 |
| VRT+17 | 81 | 89 | 136 | 156 | 190 | 216 | 54 | 75 | 3 x M10 | 618 |
| VRT+18 | 85 | 93 | 139 | 159 | 200 | 225 | 54 | 75 | 3 x M10 | 628 |
| VRT+19 | 89 | 97 | 142 | 162 | 200 | 235 | 54 | 75 | 3 x M10 | 637 |
| VRT+20 | 93 | 101 | 150 | 170 | 215 | 240 | 54 | 75 | 3 x M10 | 646 |

Selection Table for Quad Cable Application

| Part No | Quad Cable Range | | Dimensions | | | | | Weight g |
|---------|------------------|-------------|------------|-----------|------|------|------------|----------|
| | Min Dia. mm | Max Dia. mm | W(max) mm | H(max) mm | D mm | P mm | Base Holes | |
| VRQ+01 | 23 | 25 | 68 | 110 | 54 | n/a | 1 x M10 | 284 |
| VRQ+02 | 26 | 27 | 70 | 113 | 54 | n/a | 1 x M10 | 286 |
| VRQ+03 | 28 | 31 | 78 | 128 | 54 | n/a | 1 x M10 | 318 |
| VRQ+03A | 31 | 35 | 90 | 138 | 54 | n/a | 1 x M10 | 350 |
| VRQ+04 | 35 | 42 | 103 | 148 | 54 | n/a | 1 x M10 | 378 |
| VRQ+05 | 43 | 47 | 120 | 165 | 54 | n/a | 1 x M10 | 452 |
| VRQ+06 | 48 | 50 | 121 | 170 | 54 | n/a | 1 x M10 | 467 |
| VRQ+07 | 51 | 57 | 140 | 190 | 54 | 50 | 3 x M10 | 486 |
| VRQ+08 | 58 | 63 | 150 | 200 | 54 | 50 | 3 x M10 | 499 |
| VRQ+09 | 64 | 70 | 170 | 218 | 54 | 75 | 3 x M10 | 581 |

Testing Information

Vulcan + Cleats have been tested in line with the International Standard of 'Cable Cleats for for Electrical Installations' IEC 61914:2009. Typical Results are detailed below:

| Properties | IEC 61914:2009 Classification Clause | Units / Classification | Vulcan + Trefoil Test Data | Vulcan + Single Test Data |
|--|--------------------------------------|---|--|---|
| Cleat Type | 6.1, 6.1.3 | Composite | - | - |
| Impact Resistance | 6.3, 6.3.5, 9.2 | Very Heavy Classification (5.0kg @ 400mm) | Pass | Pass |
| Resistance to Electro Mechanical Force <i>(Undertaken at Damstra Laboratories NL)</i> | 6.4, 6.4.3, 9.5 | kA @ 300mm Centres M10 Fixings <i>(Withstanding one short circuit)</i> | 132 (Peak) <i>(Report No. PDL-06.037.1)</i> | Refer to Ellis Patents for further details. |
| Resistance to Electro Mechanical Force <i>(Undertaken at Damstra Laboratories NL)</i> | 6.4, 6.4.4, 9.5 | kA @ 600mm Centres M10 Fixings <i>(Withstanding more than one short circuit)</i> | 104 (Peak) <i>(Report No. PDL-07.161.2.1)</i> | Refer to Ellis Patents for further details. |
| Temperature for Permanent Application | 6.2 | °C | -40 to 60 | -40 to 60 |
| Needle Flame | 10.0, 10.1 | Application Time (seconds) | >120 | >120 |
| Lateral Load Test | 9.3 | Newtons (N) | 3000 | 5830 |
| Axial Load Test | 9.4 | Newtons (N) | 1000 | 280 |



VRT+ Range only



American Bureau of Shipping Type Approval



London Underground

Vulcan VRT+ Cable Cleats are compliant with the requirements of London Underground Standard 1-085. Product Register No. 361

