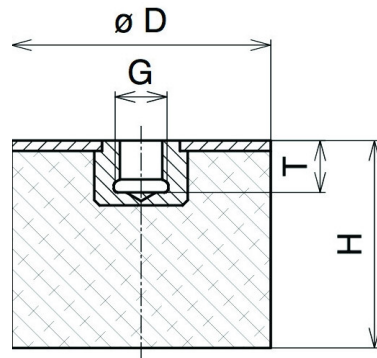
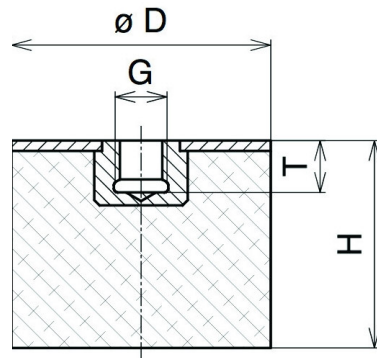


# E-Bumpers



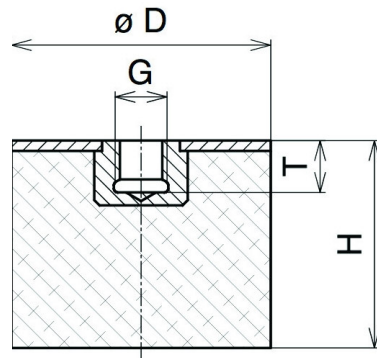
| Part Number | Dia. x Height<br>mm<br>(Inch)<br>(D) x (H) | Thread<br>(G) | Depth<br>mm<br>(Inch)<br>(T) | Thickness<br>mm<br>(Inch)<br>(S) | Quality<br>NR<br><br>ShoreA<br>Duro | Compression      |     |                   |        | Shear            |     |                   |        |
|-------------|--|---------------|------------------------------|----------------------------------|-------------------------------------|------------------|-----|-------------------|--------|------------------|-----|-------------------|--------|
|             |  |               |                              |                                  |                                     | Max. Static Load |     | Spring Rate<br>Ks |        | Max. Static Load |     | Spring Rate<br>Ks |        |
|             |  |               |                              |                                  |                                     | N                | lbs | N/mm              | lbs/in | N                | lbs | N/mm              | lbs/in |
| 1010O       | 10 x 10                                    | M4            | 4<br>(.16)                   | 1<br>(.04)                       | 43                                  | 21               | 5   | 33                | 186    | 7                | 2   | 7                 | 40     |
| 1010E       | (.39) x (.39)                              |               |                              |                                  | 57                                  | 39               | 9   | 61                | 345    | 13               | 3   | 13                | 73     |
| 1010Q       |  |               |                              |                                  | 68                                  | 63               | 14  | 99                | 559    | 21               | 5   | 21                | 119    |
| 1320O       | 13 x 20                                    | M4            | 3<br>(.12)                   | 1.5<br>(.06)                     | 43                                  | 28               | 6   | 17                | 96     | 9                | 2   | 4                 | 23     |
| 1320E       | (.51) x (.79)                              |               |                              |                                  | 57                                  | 52               | 12  | 31                | 178    | 17               | 4   | 7                 | 42     |
| 1320P       |  |               |                              |                                  | 68                                  | 84               | 19  | 51                | 288    | 27               | 6   | 12                | 68     |
| 1510O       | 15 x 10                                    | M4            | 4<br>(.16)                   | 1.5<br>(.06)                     | 43                                  | 70               | 16  | 140               | 791    | 23               | 5   | 20                | 113    |
| 1510E       | (.59) x (.39)                              |               |                              |                                  | 57                                  | 130              | 29  | 259               | 1464   | 43               | 10  | 37                | 209    |
| 1510P       |  |               |                              |                                  | 68                                  | 210              | 47  | 420               | 2374   | 69               | 16  | 60                | 339    |
| 1513O       | 15 x 13                                    | M4            | 4<br>(.16)                   | 1.5<br>(.06)                     | 43                                  | 51               | 11  | 64                | 362    | 17               | 4   | 13                | 73     |
| 1513E       | (.59) x (.51)                              |               |                              |                                  | 57                                  | 94               | 21  | 118               | 669    | 31               | 7   | 24                | 136    |
| 1513P       |  |               |                              |                                  | 68                                  | 153              | 34  | 192               | 1085   | 51               | 11  | 39                | 220    |
| 1515O       | 15 x 13                                    | M4            | 4<br>(.16)                   | 1.5<br>(.06)                     | 43                                  | 46               | 10  | 46                | 260    | 15               | 3   | 10                | 57     |
| 1515E       | (.59) x (.51)                              |               |                              |                                  | 57                                  | 85               | 19  | 85                | 481    | 28               | 6   | 19                | 105    |
| 1515P       |  |               |                              |                                  | 68                                  | 138              | 31  | 138               | 780    | 45               | 10  | 30                | 170    |
| 2013O       | 20 x 13                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 120              | 27  | 172               | 972    | 40               | 9   | 26                | 147    |
| 2013E       | (.79) x (.51)                              |               |                              |                                  | 57                                  | 222              | 50  | 318               | 1798   | 74               | 17  | 48                | 272    |
| 2013P       |  |               |                              |                                  | 68                                  | 360              | 81  | 516               | 2916   | 120              | 27  | 78                | 441    |
| 2015O       | 20 x 15                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 100              | 22  | 112               | 633    | 33               | 7   | 20                | 113    |
| 2015E       | (.79) x (.59)                              |               |                              |                                  | 57                                  | 185              | 42  | 207               | 1171   | 61               | 14  | 37                | 209    |
| 2015P       |  |               |                              |                                  | 68                                  | 300              | 67  | 336               | 1899   | 99               | 22  | 60                | 339    |
| 2020O       | 20 x 20                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 80               | 18  | 57                | 322    | 27               | 6   | 13                | 73     |
| 2020D       | (.79) x (.79)                              |               |                              |                                  | 57                                  | 148              | 33  | 105               | 596    | 50               | 11  | 24                | 136    |
| 2020P       |  |               |                              |                                  | 68                                  | 240              | 54  | 171               | 966    | 81               | 18  | 39                | 220    |
| 2025O       | 20 x 25                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 72               | 16  | 38                | 215    | 24               | 5   | 9                 | 51     |
| 2025D       | (.79) x (.98)                              |               |                              |                                  | 57                                  | 133              | 30  | 70                | 397    | 44               | 10  | 17                | 94     |
| 2025P       |  |               |                              |                                  | 68                                  | 216              | 49  | 114               | 644    | 72               | 16  | 27                | 153    |
| 2510O       | 25 x 10                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 250              | 56  | 396               | 2238   | 83               | 19  | 44                | 249    |
| 2510D       | (.98) x (.39)                              |               |                              |                                  | 57                                  | 463              | 104 | 733               | 4140   | 154              | 35  | 81                | 460    |
| 2510P       |  |               |                              |                                  | 68                                  | 750              | 169 | 1188              | 6714   | 249              | 56  | 132               | 746    |
| 2513O       | 25 x 13                                    | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 178              | 40  | 192               | 1085   | 59               | 13  | 30                | 170    |
| 2513D       | (.98) x (.51)                              |               |                              |                                  | 57                                  | 329              | 74  | 355               | 2007   | 109              | 25  | 56                | 314    |
| 2513P       |  |               |                              |                                  | 68                                  | 534              | 120 | 576               | 3255   | 177              | 40  | 90                | 509    |

# E-Bumpers



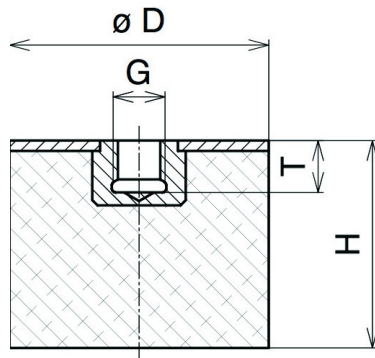
| Part Number | Dia. x Height<br>mm<br>(Inch)<br>(D) x (H) | Thread<br>(G) | Depth<br>mm<br>(Inch)<br>(T) | Thickness<br>mm<br>(Inch)<br>(S) | Quality<br>NR<br><br>ShoreA<br>Duro | Compression      |     |                   |        | Shear            |     |                   |        |
|-------------|--|---------------|------------------------------|----------------------------------|-------------------------------------|------------------|-----|-------------------|--------|------------------|-----|-------------------|--------|
|             |  |               |                              |                                  |                                     | Max. Static Load |     | Spring Rate<br>Ks |        | Max. Static Load |     | Spring Rate<br>Ks |        |
|             |  |               |                              |                                  |                                     | N                | lbs | N/mm              | lbs/in | N                | lbs | N/mm              | lbs/in |
| 2515O       | 25 x 15<br>(.98) x (.59)                   | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 178              | 40  | 192               | 1085   | 59               | 13  | 30                | 170    |
| 2515E       |  |               |                              |                                  | 329                                 | 74               | 355 | 2007              | 109    | 25               | 56  | 314               |        |
| 2515Q       |  |               |                              |                                  | 534                                 | 120              | 576 | 3255              | 177    | 40               | 90  | 509               |        |
| 2517O       | 25 x 17<br>(.98) x (.67)                   | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 142              | 32  | 85                | 480    | 44               | 10  | 18                | 102    |
| 2517E       |  |               |                              |                                  | 263                                 | 59               | 157 | 889               | 81     | 18               | 33  | 188               |        |
| 2515Q       |  |               |                              |                                  | 426                                 | 96               | 255 | 1441              | 132    | 30               | 54  | 305               |        |
| 2525O       | 25 x 25<br>(.98) x (.98)                   | M6            | 6<br>(.24)                   | 2<br>(.08)                       | 43                                  | 113              | 25  | 49                | 277    | 38               | 9   | 12                | 68     |
| 2525E       |  |               |                              |                                  | 209                                 | 47               | 91  | 512               | 70     | 16               | 22  | 125               |        |
| 2525Q       |  |               |                              |                                  | 339                                 | 76               | 147 | 831               | 114    | 26               | 36  | 203               |        |
| 3012O       | 30 x 12<br>(1.18) x (.47)                  | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 280              | 63  | 280               | 1582   | 93               | 21  | 40                | 226    |
| 3012E       |  |               |                              |                                  | 518                                 | 116              | 518 | 2927              | 172    | 39               | 74  | 418               |        |
| 3012Q       |  |               |                              |                                  | 840                                 | 189              | 840 | 4747              | 279    | 63               | 120 | 678               |        |
| 3015O       | 30 x 15<br>(1.18) x (.59)                  | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 231              | 52  | 178               | 1006   | 77               | 17  | 31                | 175    |
| 3015E       |  |               |                              |                                  | 427                                 | 96               | 329 | 1861              | 142    | 32               | 57  | 324               |        |
| 3015Q       |  |               |                              |                                  | 693                                 | 156              | 534 | 3018              | 231    | 52               | 93  | 526               |        |
| 3020O       | 30 x 20<br>(1.18) x (.79)                  | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 192              | 43  | 107               | 605    | 64               | 14  | 22                | 124    |
| 3020E       |  |               |                              |                                  | 355                                 | 80               | 198 | 1119              | 118    | 27               | 41  | 230               |        |
| 3020Q       |  |               |                              |                                  | 576                                 | 129              | 321 | 1814              | 192    | 43               | 66  | 373               |        |
| 3030O       | 30 x 30<br>(1.18) x (1.18)                 | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 162              | 36  | 58                | 328    | 54               | 12  | 14                | 79     |
| 3030E       |  |               |                              |                                  | 300                                 | 67               | 107 | 606               | 100    | 22               | 26  | 146               |        |
| 3030Q       |  |               |                              |                                  | 486                                 | 109              | 174 | 983               | 162    | 36               | 42  | 237               |        |
| 4020O       | 40 x 20<br>(1.57) x (.79)                  | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 401              | 90  | 223               | 1260   | 134              | 30  | 40                | 226    |
| 4020E       |  |               |                              |                                  | 742                                 | 167              | 413 | 2331              | 248    | 56               | 74  | 418               |        |
| 4020Q       |  |               |                              |                                  | 1203                                | 270              | 669 | 3781              | 402    | 90               | 120 | 678               |        |
| 4025O       | 40 x 25<br>(1.57) x (.98)                  | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 349              | 78  | 152               | 859    | 116              | 26  | 31                | 175    |
| 4025E       |  |               |                              |                                  | 646                                 | 145              | 281 | 1589              | 215    | 48               | 57  | 324               |        |
| 4025Q       |  |               |                              |                                  | 1047                                | 235              | 456 | 2577              | 348    | 78               | 93  | 526               |        |
| 4028O       | 40 x 28<br>(1.57) x (1.10)                 | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 330              | 74  | 127               | 718    | 110              | 25  | 28                | 158    |
| 4028E       |  |               |                              |                                  | 611                                 | 137              | 235 | 1328              | 204    | 46               | 52  | 293               |        |
| 4028Q       |  |               |                              |                                  | 990                                 | 223              | 381 | 2153              | 330    | 74               | 84  | 475               |        |
| 4045O       | 40 x 45<br>(1.57) x (1.77)                 | M8            | 8<br>(.31)                   | 2<br>(.08)                       | 43                                  | 227              | 51  | 64                | 362    | 17               | 4   | 17                | 96     |
| 4045E       |  |               |                              |                                  | 420                                 | 94               | 118 | 669               | 31     | 7                | 31  | 178               |        |
| 4045Q       |  |               |                              |                                  | 681                                 | 153              | 192 | 1085              | 51     | 11               | 51  | 288               |        |

# E-Bumpers



| Part Number | Dia. x Height<br>mm<br>(Inch)<br>(D) x (H) | Thread<br>(G) | Depth<br>mm<br>(Inch)<br>(T) | Thickness<br>mm<br>(Inch)<br>(S) | Quality<br>NR<br><br>ShoreA<br>Duro | Compression      |      |                |        | Shear            |      |                |        |
|-------------|--|---------------|------------------------------|----------------------------------|-------------------------------------|------------------|------|----------------|--------|------------------|------|----------------|--------|
|             |  |               |                              |                                  |                                     | Max. Static Load |      | Spring Rate Ks |        | Max. Static Load |      | Spring Rate Ks |        |
|             |  |               |                              |                                  |                                     | N                | lbs  | N/mm           | lbs/in | N                | lbs  | N/mm           | lbs/in |
| 5021O       | 50 x 21<br>(1.97 x (.83))                  | M10           | 10<br>(.39)                  | 2<br>(.08)                       | 43                                  | 902              | 203  | 643            | 3634   | 80               | 18   | 80             | 452    |
| 5021E       |  |               |                              |                                  | 57                                  | 1669             | 375  | 1190           | 6722   | 148              | 33   | 148            | 836    |
| 5021Q       |  |               |                              |                                  | 68                                  | 2706             | 608  | 1929           | 10901  | 240              | 54   | 240            | 1356   |
| 5028O       | 50 x 28<br>(1.97 x (1.10))                 | M10           | 10<br>(.39)                  | 2<br>(.08)                       | 43                                  | 655              | 147  | 311            | 1758   | 218              | 49   | 53             | 300    |
| 5028E       |  |               |                              |                                  | 57                                  | 1212             | 272  | 575            | 3251   | 403              | 91   | 98             | 554    |
| 5028Q       |  |               |                              |                                  | 68                                  | 1965             | 442  | 933            | 5273   | 654              | 147  | 159            | 899    |
| 5030O       | 50 x 30<br>(1.97 x (1.18))                 | M10           | 10<br>(.39)                  | 2<br>(.08)                       | 43                                  | 618              | 139  | 268            | 1515   | 206              | 46   | 49             | 277    |
| 5030E       |  |               |                              |                                  | 57                                  | 1143             | 257  | 496            | 2802   | 381              | 86   | 91             | 512    |
| 5030Q       |  |               |                              |                                  | 68                                  | 1854             | 417  | 804            | 4544   | 618              | 139  | 147            | 831    |
| 5040O       | 50 x 40<br>(1.97 x (1.57))                 | M10           | 10<br>(.39)                  | 2<br>(.08)                       | 43                                  | 512              | 115  | 155            | 876    | 171              | 38   | 34             | 192    |
| 5040E       |  |               |                              |                                  | 57                                  | 947              | 213  | 287            | 1620   | 316              | 71   | 63             | 355    |
| 5040Q       |  |               |                              |                                  | 68                                  | 1536             | 345  | 465            | 2628   | 513              | 115  | 102            | 576    |
| 5050O       | 50 x 50<br>(1.97 x (1.97))                 | M10           | 10<br>(.39)                  | 2<br>(.08)                       | 43                                  | 462              | 104  | 107            | 605    | 154              | 35   | 26             | 147    |
| 5050E       |  |               |                              |                                  | 57                                  | 855              | 192  | 198            | 1119   | 285              | 64   | 48             | 272    |
| 5050Q       |  |               |                              |                                  | 68                                  | 1386             | 312  | 321            | 1814   | 462              | 104  | 78             | 441    |
| 7525O       | 75 x 25<br>(2.95 x (.98))                  | M12           | 12<br>(.47)                  | 3<br>(.12)                       | 43                                  | 2303             | 518  | 1246           | 7041   | 768              | 173  | 136            | 769    |
| 7525E       |  |               |                              |                                  | 57                                  | 4261             | 958  | 2305           | 13027  | 1421             | 319  | 252            | 1422   |
| 7525Q       |  |               |                              |                                  | 68                                  | 6909             | 1553 | 3738           | 21124  | 2304             | 518  | 408            | 2306   |
| 7540O       | 75 x 40<br>(2.95 x (1.57))                 | M12           | 12<br>(.47)                  | 3<br>(.12)                       | 43                                  | 1418             | 319  | 423            | 2390   | 473              | 106  | 75             | 424    |
| 7540E       |  |               |                              |                                  | 57                                  | 2623             | 590  | 783            | 4422   | 875              | 197  | 139            | 784    |
| 7540Q       |  |               |                              |                                  | 68                                  | 4254             | 956  | 1269           | 7171   | 1419             | 319  | 225            | 1272   |
| 7545O       | 75 x 45<br>(2.95 x (1.77))                 | M12           | 12<br>(.47)                  | 3<br>(.12)                       | 43                                  | 1305             | 293  | 339            | 1916   | 435              | 98   | 66             | 373    |
| 7545E       |  |               |                              |                                  | 57                                  | 2414             | 543  | 627            | 3544   | 805              | 181  | 122            | 690    |
| 7545Q       |  |               |                              |                                  | 68                                  | 3915             | 880  | 1017           | 5747   | 1305             | 293  | 198            | 1119   |
| 7550O       | 75 x 50<br>(2.95 x (1.97))                 | M12           | 12<br>(.47)                  | 3<br>(.12)                       | 43                                  | 1223             | 275  | 281            | 1588   | 408              | 92   | 58             | 328    |
| 7550E       |  |               |                              |                                  | 57                                  | 2263             | 509  | 520            | 2938   | 755              | 170  | 107            | 606    |
| 7550Q       |  |               |                              |                                  | 68                                  | 3669             | 825  | 843            | 4764   | 1224             | 275  | 174            | 983    |
| 1030O       | 100 x 30<br>(3.94 x (1.18))                | M16           | 16<br>(.63)                  | 4<br>(.16)                       | 43                                  | 4656             | 1047 | 2136           | 12071  | 1552             | 349  | 206            | 1164   |
| 1030E       |  |               |                              |                                  | 57                                  | 8614             | 1936 | 3952           | 22331  | 2871             | 645  | 381            | 2154   |
| 1030Q       |  |               |                              |                                  | 68                                  | 13968            | 3140 | 6408           | 36213  | 4656             | 1047 | 618            | 3492   |
| 1040O       | 100 x 40<br>(3.94 x (1.57))                | M16           | 16<br>(.63)                  | 4<br>(.16)                       | 43                                  | 3234             | 727  | 1017           | 5747   | 1078             | 242  | 141            | 797    |
| 1040E       |  |               |                              |                                  | 57                                  | 5983             | 1345 | 1881           | 10632  | 1994             | 448  | 261            | 1474   |
| 1040Q       |  |               |                              |                                  | 68                                  | 9702             | 2181 | 3051           | 17242  | 3234             | 727  | 423            | 2390   |

# E-Bumpers



| Part Number | Dia. x Height<br>mm<br>(Inch)<br>(D) x (H) | Thread<br>(G) | Depth<br>mm<br>(Inch)<br>(T) | Thickness<br>mm<br>(Inch)<br>(S) | Quality<br>NR<br><br>ShoreA<br>Duro | Compression      |       |                |        | Shear            |      |                |        |
|-------------|--|---------------|------------------------------|----------------------------------|-------------------------------------|------------------|-------|----------------|--------|------------------|------|----------------|--------|
|             |  |               |                              |                                  |                                     | Max. Static Load |       | Spring Rate Ks |        | Max. Static Load |      | Spring Rate Ks |        |
|             |  |               |                              |                                  |                                     | N                | lbs   | N/mm           | lbs/in | N                | lbs  | N/mm           | lbs/in |
| 1050O       | 100 x 50<br>(3.94) x (1.97)                | M16           | 16<br>(.63)                  | 4<br>(.16)                       | 43                                  | 2473             | 556   | 538            | 3040   | 824              | 185  | 97             | 548    |
| 1050E       |  |               |                              |                                  |                                     | 4575             | 1029  | 995            | 5625   | 1524             | 343  | 179            | 1014   |
| 1050Q       |  |               |                              |                                  |                                     | 7419             | 1668  | 1614           | 9121   | 2472             | 556  | 291            | 1645   |
| 1060O       | 100 x 60<br>(3.94) x (2.36)                | M16           | 16<br>(.63)                  | 4<br>(.16)                       | 43                                  | 2313             | 520   | 395            | 2232   | 738              | 166  | 80             | 452    |
| 1060E       |  |               |                              |                                  |                                     | 4279             | 962   | 731            | 4130   | 1365             | 307  | 148            | 836    |
| 1060Q       |  |               |                              |                                  |                                     | 6939             | 1560  | 1185           | 6697   | 2214             | 498  | 240            | 1356   |
| 1250O       | 125 x 50<br>(4.92) x (1.97)                | M16           | 16<br>(.63)                  | 4<br>(.16)                       | 43                                  | 4574             | 1028  | 1017           | 5747   | 1525             | 343  | 156            | 882    |
| 1250E       |  |               |                              |                                  |                                     | 8462             | 1902  | 1881           | 10632  | 2821             | 634  | 289            | 1631   |
| 1250Q       |  |               |                              |                                  |                                     | 13722            | 3085  | 3051           | 17242  | 4575             | 1029 | 468            | 2645   |
| 1550O       | 150 x 50<br>(5.91) x (1.97)                | M16           | 16<br>(.63)                  | 5<br>(.20)                       | 43                                  | 7649             | 1720  | 1700           | 9607   | 2550             | 573  | 224            | 1266   |
| 1550E       |  |               |                              |                                  |                                     | 14151            | 3181  | 3145           | 17773  | 4718             | 1061 | 414            | 2342   |
| 1050Q       |  |               |                              |                                  |                                     | 22947            | 5159  | 5100           | 28821  | 7650             | 1720 | 672            | 3798   |
| 2050O       | 200 x 50<br>(7.87) x (1.97)                | M20           | 20<br>(.79)                  | 5<br>(.20)                       | 43                                  | 18000            | 4047  | 4000           | 22605  | 6000             | 1349 | 400            | 2260   |
| 2050E       |  |               |                              |                                  |                                     | 33300            | 7486  | 7400           | 41819  | 11100            | 2495 | 740            | 4182   |
| 2050Q       |  |               |                              |                                  |                                     | 54000            | 12140 | 12000          | 67815  | 18000            | 4047 | 1200           | 6781   |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |
|             |  |               |                              |                                  |                                     |                  |       |                |        |                  |      |                |        |