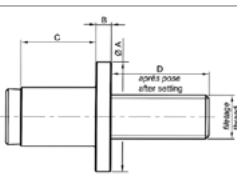


# RAIL BOND

## ► ELECTRICAL CONNECTION TO THE RAIL



| THREAD DIMENSION                                                                         | M6                                                                                 | M6                                                                                 | M10                                                                                | M10                                                                                  | M10                                                                                  |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| DRILLING DIAMETER (mm)                                                                   | Ø 8 > 8.2                                                                          | Ø 8.5 > 8.7                                                                        | Ø 13.5 > 13.7                                                                      | Ø 13.5 > 13.7                                                                        | Ø 13.5 > 13.7                                                                        |
| RAIL WEB THICKNESS                                                                       | 17 mm max.                                                                         | 17 mm max.                                                                         | 17 mm max.                                                                         | 17 mm max.                                                                           | 15 mm min.                                                                           |
| PACKAGING<br>M6 BOX OF 20 EARTH BONDS + HARDWARE<br>M10 BOX OF 10 EARTH BONDS + HARDWARE |   |   |  |   |   |
| EARTH BOND P/N                                                                           | 30996                                                                              | 30989                                                                              | 77911                                                                              | 81974                                                                                | 80913                                                                                |
| APPROVAL                                                                                 |                                                                                    |                                                                                    | SNCF:<br>7.952.0882                                                                | SNCF:<br>7.952.1513                                                                  | SNCF:<br>7.952.0900                                                                  |
| BUSHING MATERIAL                                                                         | Tin-plated copper                                                                  | Tin-plated copper                                                                  | Tin-plated copper                                                                  | Tin-plated copper                                                                    | Tin-plated copper                                                                    |
| BUSHING LENGTH                                                                           | 17 mm                                                                              | 17 mm                                                                              | 17 mm                                                                              | 15.5 mm                                                                              | 6.5 mm                                                                               |
| HARDWARE                                                                                 |  |  |  |  |  |
| CONTACT SURFACE                                                                          | 427 mm <sup>2</sup>                                                                | 453 mm <sup>2</sup>                                                                | 721 mm <sup>2</sup>                                                                | 640 mm <sup>2</sup>                                                                  | 275 mm <sup>2</sup>                                                                  |
| REAMER DRILL ADAPTER                                                                     | 30776                                                                              | 80312<br>86070                                                                     | 86225<br>86859                                                                     | 86225<br>86859                                                                       | 86225<br>86859                                                                       |
| SETTING TOOL                                                                             | PH1IN                                                                              | PH1IN                                                                              | PH3IN                                                                              | PH3IN                                                                                | PH3IN                                                                                |
| TORQUE WRENCH + SOCKET                                                                   | 80997<br>+OFACR10                                                                  | 80997<br>+OFACR10                                                                  | 80967<br>+OFACS16H                                                                 | 80967<br>+OFACS16H                                                                   | 80967<br>+OFACS16H                                                                   |
| TIGHTENING TORQUE                                                                        | 10 Nm                                                                              | 10 Nm                                                                              | 40 Nm                                                                              | 40 Nm                                                                                | 40 Nm                                                                                |
|       | DIMENSIONS (MM)                                                                    |                                                                                    | Ø A                                                                                |                                                                                      |                                                                                      |
|                                                                                          |                                                                                    |                                                                                    | B                                                                                  |                                                                                      |                                                                                      |
|                                                                                          |                                                                                    |                                                                                    | C                                                                                  |                                                                                      |                                                                                      |
|                                                                                          |                                                                                    |                                                                                    | D                                                                                  |                                                                                      |                                                                                      |
|                                                                                          | WEIGHT                                                                             |                                                                                    | 51 gr                                                                              | 46 gr                                                                                | 35 gr                                                                                |
| ELECTRICAL CHARACTERISTICS                                                               | TOTAL ELECTRICAL RESISTANCE                                                        |                                                                                    | 12 µΩ                                                                              | 12 µΩ                                                                                | 12 µΩ                                                                                |
|                                                                                          | ELECTRICAL RESISTANCE OF THE EARTH BOND-RAIL CONTACT                               |                                                                                    | 4 µΩ                                                                               | 5 µΩ                                                                                 | 6 µΩ                                                                                 |
| ELECTRICAL TESTS                                                                         | ABILITY TO WITHSTAND HEATING                                                       |                                                                                    | Current between 1000 & 1500 A for 50 minutes (train passing 10 times).             |                                                                                      |                                                                                      |
|                                                                                          | SHORT-CIRCUIT WITHSTAND STRENGTH                                                   |                                                                                    | 3 short-circuit tests at 7000 A 0.2s                                               |                                                                                      |                                                                                      |
|                                                                                          | CORROSION RESISTANCE                                                               |                                                                                    | 300 hours in salt mist (NFX41002)                                                  |                                                                                      |                                                                                      |
| OTHER TESTS                                                                              | ABILITY TO WITHSTAND VIBRATION                                                     |                                                                                    | Acceleration from 7 to 16 g along 3 axes, 8 hours per axis.                        |                                                                                      |                                                                                      |
|                                                                                          | RESISTANCE TO THERMAL SHOCK                                                        |                                                                                    | -30°C / +70°C                                                                      |                                                                                      |                                                                                      |
|                                                                                          | RESISTANCE TO PRESSURE (colored water)                                             |                                                                                    | No leakage before: 250 Bar.                                                        |                                                                                      |                                                                                      |
| APPLICATION EXAMPLE                                                                      |                                                                                    |                                                                                    | TCR Signaling                                                                      | AD connection                                                                        | Double connection                                                                    |