

# RAIL BOND

## ► ELECTRICAL CONNECTION TO THE RAIL



THREAD	M6	M6	M10	M10	M10
<b>DRILLING DIAMETER</b> (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
<b>RAIL WEB THICKNESS</b>	17 mm max.	17 mm max.	17 mm max.	17 mm max.	15 mm min.
<b>PACKAGING BOX OF 10 BONDS + FASTENING</b>					
<b>BOND PART No.</b>	30996	30989	77911	81974	80913
<b>APPROVAL</b>			<b>SNCF: 7.952.0882</b>	<b>SNCF: 7.952.1513</b>	<b>SNCF: 7.952.0900</b>
<b>BUSHING MATERIAL</b>	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper
<b>BUSHING LENGTH</b>	17 mm	17 mm	17 mm	15.5 mm	6.5 mm
<b>HARDWARE</b>					
<b>CONTACT SURFACE</b>	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>
<b>REAMER DRILL ADAPTER</b>	30776	80312 86070	86225 86859	86225 86859	86225 86859
<b>SETTING TOOL</b>	PH1IN	PH1IN	PH3IN	PH3IN	PH3IN
<b>TORQUE WRENCH + SOCKET</b>	80997 +OFACR10	80997 +OFACR10	80967 +OFACS16H	80967 +OFACS16H	80967 +OFACS16H
<b>TORQUE VALUE</b>	10 Nm	10 Nm	40 Nm	40 Nm	40 Nm
	<b>DIMENSIONS</b> (mm)	Ø A	25	25	25
		B	3.5	3.5	3.5
	C	17	17	15.5	6.5
	D	23	23	23	23
	<b>WEIGHT</b>		51 gr	46 gr	35 gr
<b>ELECTRICAL SPECIFICATIONS</b>	<b>TOTAL ELECTRICAL RESISTANCE</b>		12 µΩ	12 µΩ	12 µΩ
	<b>ELECTRICAL RESISTANCE OF THE BOND – RAIL CONTACT</b>		4 µΩ	5 µΩ	6 µΩ
<b>ELECTRICAL TESTS</b>	<b>ABILITY TO WITHSTAND HEATING</b>		Current between 1000 & 1500 A for 50 minutes (train passing 10 times).		
	<b>SHORT-CIRCUIT WITHSTAND STRENGTH</b>		3 short-circuit tests at 7000 A 0.2s		
	<b>CORROSION RESISTANCE</b>		300 hours in salt mist (NFX41002)		
<b>OTHER TESTS</b>	<b>ABILITY TO WITHSTAND VIBRATION</b>		Acceleration from 7 to 16 g along 3 axes, 8 hours per axis.		
	<b>RESISTANCE TO THERMAL SHOCK</b>		-30°C / +70°C		
	<b>RESISTANCE TO PRESSURE</b> (coloured water)		No leakage before: 250 Bar.		
<b>APPLICATION EXAMPLE</b>			<b>Traction current return/Signalling</b>	<b>AD connection</b>	<b>Double connection</b>

# RAIL BOND

## ► ELECTRICAL CONNECTION TO THE RAIL



THREAD	M12	M12D	M12	M16
<b>DRILLING DIAMETER (mm)</b>	Ø 19 > 19.2	Ø 19 > 19.2	Ø 22 > 22.2	Ø 22 > 22.2
<b>RAIL WEB THICKNESS</b>	17 mm max.	16 – 18 mm	22 mm max.	22 mm max.
<b>PACKAGING BOX OF 10 BONDS + FASTENING</b>				
<b>BOND PART No.</b>	80917 77918	77928	30987	30986
<b>APPROVAL</b>			<b>RAILTRACK</b>	<b>RAILTRACK</b>
<b>BUSHING MATERIAL</b>	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper
<b>BUSHING LENGTH</b>	17 mm	15.5 mm	22 mm	22 mm
<b>HARDWARE</b>				
<b>CONTACT SURFACE</b>	1014 mm <sup>2</sup>	925 mm <sup>2</sup>	1451 mm <sup>2</sup>	1451 mm <sup>2</sup>
<b>REAMER ANNULAR CUTTER ADAPTER</b>	80396 80373	80396 80373	80365 80373	80365 80373
<b>SETTING TOOL</b>	PH4IN	PH4IN + draw stud 78410	PH4IN	PH6IN
<b>TORQUE WRENCH + SOCKET</b>	80967 +OFACS18H	80967 +OFACS18H	80967 +OFACS18H	80968 +OFACS24H
<b>TORQUE VALUE</b>	80 Nm	80 Nm	80 Nm	150 Nm
<b>DIMENSIONS (mm)</b>	<b>Ø A</b> 30 <b>B</b> 5 <b>C</b> 17.5 <b>D</b> 24 (in rail thickness 16.5 mm)	<b>Ø A</b> 30 <b>B</b> 4 <b>C</b> 15.5 <b>D</b> 24	<b>Ø A</b> 30 <b>B</b> 5 <b>C</b> 22 <b>D</b> 31	<b>Ø A</b> 35 <b>B</b> 5 <b>C</b> 22 <b>D</b> 37
<b>WEIGHT</b>	93 gr	190 gr	122 gr	165 gr
<b>ELECTRICAL SPECIFICATIONS</b>				
<b>TOTAL ELECTRICAL RESISTANCE</b>	15 µΩ	15 µΩ	10 µΩ	10 µΩ
<b>ELECTRICAL RESISTANCE OF THE BOND – RAIL CONTACT</b>	5 µΩ	5 µΩ	3 µΩ	3 µΩ
<b>ELECTRICAL TESTS</b>				
<b>ABILITY TO WITHSTAND HEATING</b>	1h00 at 250 A + 2h30 at 500 A + 1h30 at 2000 A			1000 cycles of 5 minutes at 2800A Constant current 8 hours at 1000A
<b>SHORT-CIRCUIT WITHSTAND STRENGTH</b>				3 short-circuit tests at 34 000 A 1 s
<b>OTHER TESTS</b>				
<b>RESISTANCE TO THERMAL SHOCK</b>				-30°C / +70°C
<b>APPLICATION EXAMPLE</b>	<b>Tramway</b>			

