

REFERENCES

RAILWAYS AND URBAN TRANSIT



Ballastless track systems of RHEDA type for railway applications

System	Project	Length [m]	Year
RHEDA 2000®	Hanau – Nantebach (Germany)	2 x 6,000	2016-17
	Kaiser Wilhelm Tunnel (Germany)	1 x 4,000	2015-16
	Alter Bebenroth Tunnel (Germany)	1 x 1,000	2015
	Acton Diveunder London (Great Britain)	2 x 370	2014-15
	Borders Railway Bowshank Tunnel (Great Britain)	2 x 226	2014
	Mekka-Medina, named Haramain-line (Saudi-Arabia)	2 x 80.000	2012-14
	Berlin-Munic, Ebensfeld-Erfurt –Leipzig / Halle (VDE 8.1 und 8.2) (Germany)	44.800 lfd. M.	2012-14
	Seoul – Mokpo, between Osong – Mokpo, named Honam-Linie (Southkorea)	2 x 230.000 6.730 lfm. M.	2012-14
	Alter Schluechterner Tunnel / Between Frankfurt – Göttingen (Germany)	3.600	2012-13
	Bebenroth Tunnel between Goettingen - Bebra (Germany)	1 x 1,074	2012
	Tunnel Turecký auf der Strecke Nove Mesto nad Vahom – Púchov (Slovakia)	2 x 2.280	2011-12
	ESAP Metro Athens (Greece)	1 x 33,000	2009-11
	Leipzig City Tunnel (Germany)	2 x 4,000	2009-10
	Southampton Tunnel (Great Britain)	2 x 550	2009-10
	Several tunnel projects on the High Speed Line Madrid – Valencia (Spain):		
	▶ Hoyo de Roda	2 x 1,900	2009
	▶ Umbria de los molinos	2 x 7,200	2009
	▶ Villalgordo del Cabriel	2 x 2,000	2009
	▶ Cabrera	2 x 3,000	2009
	▶ Buñol	2 x 1,500	2009
	▶ Torrent	2 x 3,300	2009

Ballastless track systems of RHEDA type for railway applications

System	Project	Length [m]	Year
RHEDA 2000®	Railway Connection Eje Atlántico, different tunnel projects (Spain):		
	<ul style="list-style-type: none"> ▶ Meirama Bregua ▶ Cerceda Meirama 	<ul style="list-style-type: none"> 2 x 3,000 2 x 1,800 	<ul style="list-style-type: none"> 2009 2009
	Hamstead Heath Tunnel (Great Britain)	2 x 1,044	2008
	High Speed Line Seoul – Busan, 2 nd Section (Kyungbu-Line, 2 nd stage), Korea	2 x 46,000	2007-10
	High Speed Line Wuhan – Guangzhou, Passenger Dedicated Line (China)	2 x 980,000	2007-10
	Perpignan – Figueras (France / Spain)	2 x 4,500	2007-08
	Railway Connection Udampur – Katra (India)	10	2007-08
	Buschtunnel Aachen (Germany)	2 x 600	2007
	Madrid – Barcelona, Tunnel Sant Joan Despí (Spain)	2 x 15,000	2007
	Wuhan – Guangzhou, Pilot Track (China)	2 x 10,000	2007
	Cologne, Muehlheim-Deutz (Germany)	2 x 300	2007
	Madrid – Valladolid, Tunnel San Pedro (Spain)	2 x 12,000	2007
	Guadarrama Tunnel (Spain)	2 x 30,000	2006-07
	Eje Atlántico, different tunnel projects (Spain)	2 x 8,000	2006-07
	S-Bahn Tunnel Unterfoehring/Muenchen (Germany)	2 x 1,400	2005
	Rudoltice – Trebovice (Czech Republic)	2 x 444	2005
	Taipei – Kaohsiung (Taiwan)	88	2004-06
	North-South Link (Germany)	9,8	2004-05
	Nuremberg – Ingolstadt (Germany)	2 x 36,000	2004-05
	Esslingerberg Tunnel (Germany)	2 x 13	2004
	Hibel Road Tunnel (Great Britain)	2 x 350	2003

Ballastless track systems of RHEDA type for railway applications

System	Project	Length [m]	Year
RHEDA 2000®	Side Connection with the High Speed line Nuremberg – Ingolstadt, Section Fischbach/Feucht (Germany)	2 x 2,100	2003
	Prestbury Tunnel (Great Britain)	2 x 513	2003
	Railway Bridge Ul. Wielicka Krakow - Tarnow-Line (Poland)	2 x 18	2003
	Amsterdam – Brussels (HSL Zuid / Netherlands)	2 x 80,000	2002-06
	New Line between Las Palmas – Ourepesa (Spain)	2 x 430	2002
	Lehrter Bahnhof / New Berlin Main Station (Germany)	4 Turnouts	2002
	New Connection between Erfurt-Halle / Leipzig – Section Großkugel (Germany)	2 x 3,000	2001
	New Line between Erfurt – Halle / Leipzig – Section Schkeudiz (Germany)	2 x 500	2000
RHEDA-BERLIN	High Speed Line Cologne – Frankfurt Airport, Lot B (Germany)	2 x 95,000	1999-02
	Railway Connection Erfurt – Leipzig / Halle, Section Schkeuditz (Germany)	2 x 13,000	1999-00
	Upgraded Railway Connection Leipzig – Erfurt, Section Leislingen – Naumburg (Germany)	2 x 1,260	1997
	High Speed Line Hanover – Berlin, Section Zoo-Berlin Main Station (Germany)	4 x 8,000	1995-97
RHEDA-Rathenow	High Speed Connection Berlin – Hanover, Section Rathenow (Germany)	4 x 800	1998

Asphalt-based ballastless track systems for railway applications

System	Project	Length [m]	Year
ATD	New Line between Las Palmas – Ourepesa (Spain)	2 x 435	2002
	High Speed Connection Berlin – Hanover, Section Haemerten (Germany)	2 x 5,500	1996-97
	Railway Connection Halle/S – Gunthershausen, Section Gotha Leinakanal (Germany)	2 x 1,490	1994
	Railway Connection Wuerzburg – Frankfurt/M., Section Nantenbach Curve (Germany)	2 x 7,240	1993
GETRAC® A1	Railway Project Wengi – Frutigen (Switzerland)	700	2004
	Lossetalbahn / Kassel (Germany)	650	2003
	New Line between Las Palmas – Ourepesa (Spain)	2 x 435	2002
	Railway Connection Hanover – Berlin, Section Berlin-Westkreuz-Ruhleben (Germany)	2 x 3,515	1994-95
GETRAC® A3	Railway Project Old Mainz Tunnels (Germany)	2 x 900	2009
	Railway Project Schluechterner Tunnel / Railway Line Frankfurt – Goettingen (Germany)	7,571	2008-10
	Railway Project Brandleite Tunnel / Railway Line Erfurt – Wuerzburg (Germany)	2 x 3,600	2005
	Railway Project Esslingerberg-Tunnel / Treuchtlingen (Germany)	2 x 700	2004
	Railway Project Heiligenberg Tunnel (Germany)	2 x 1,300	2001-02
	Railway Project Kehretunnel (Deutschland)	2 x 300	2001

Ballastless track systems of RHEDA typs for urban transit applications

System	Project	Length [m]	Year
RHEDA CITY (installed flush with the street surface)	Bergen (Norway)	616	2015
	Bochum (Germany)	205	2015
	Basel (Switzerland))	303	2014
	Granada (Spain)	4,669	2013-14
	Sosnowiec (Poland)	2,253	2013-14
	Champocologno (Switzerland)	113	2013
	Augsburg (Germany)	3,523	2012-14
	Utrecht (The Netherlands)	1,271	2012-14
	Heilbronn (Germany)	2,819	2012-13
	Radebeul (Germany)	1,663	2012
	Stuttgart (Germany), industrial tracks	97	2012
	Dublin (Ireland), industrial tracks	1,906	2011-13
	Plzen (Czech Republic)	372	2011-12
	Prague(Czech Republic)	120	2011
	Samedan (Switzerland)	273	2011
	Tirano (Italy)	144	2011
	Ruedersdorf / Schoeneiche (Germany)	288	2010-13
	Woltersdorf (Germany)	922	2010-13
	Runkel (Germany)	517	2010
	Schoeneiche (Germany)	105	2010
	Dublin (Ireland)	9,624	2009-14
	Frankfurt (Germany)	1,937	2009-14
	Arlesheim / Dornach (Switzerland)	150	2009
	Neuss (Germany)	60	2009
	Reinach (Switzerland)	615	2009
	Sevilla (Spain)	16,968	2009

Ballastless track systems of RHEDA typs for urban transit applications

System	Project	Length [m]	Year
RHEDA CITY (installed flush with the street surface)	Edinburgh (Great Britain)	8,454	2008-13
	Potsdam (Germany)	3,384	2008-13
	Wuerzburg (Germany)	135	2008-11
	Munich (Germany)	3,13	2008-09
	Leipzig (Germany)	336	2008
	Warsaw (Poland)	29,529	2007-14
	Kassel (Germany)	881	2007-12
	Croydon (England)	142	2007-09
	Bonn (Germany)	328	2007-08
	Schwerin (Germany)	619	2006-12
	Bucharest (Romania)	12,48	2006-07
	The Hague (The Netherlands)	2,335	2006-07
	Chur (Switzerland)	1,7	2005-10
	Saarbruecken (Germany)	3,82	2005-07
	Mainz (Germany)	597	2004-14
	Heidelberg (Germany)	5,339	2004-13
	Magdeburg (Germany)	3,587	2004-13
	Nantes (France)	1,44	2004-05
	Karlsruhe (Germany)	4,349	2003-14
	Köln (Deutschland)	5,241	2003-13
	Schriesheim (Germany)	371	2003-12
	Cologne (Germany)	3,461	2003-10
	Ludwigshafen (Germany)	1,973	2002-14
	Mannheim (Germany)	14.967	2002-14
	Nuremberg (Germany)	18,755	2002-13
	Binnenhafen Aken (Germany)	610	2002-03
	Duesseldorf (Germany)	1,454	2002

Ballastless track systems of RHEDA typs for urban transit applications

System	Project	Length [m]	Year	
RHEDA CITY (installed flush with the street surface)	Essen (Germany)	235	2002	
	Bremen (Germany)	910	2001	
	Braunschweig (Germany)	2,951	2000-13	
	Berlin (Germany)	58,569	1998-14	
	Dresden (Germany)	64,627	1998-14	
	Hanover (Germany)	2,474	1999-14	
RHEDA CITY "Green"	Chemnitz (Germany)	50	2014	
	Frankfurt (Germany)	512	2014	
	Warsaw (Poland)	9,957	2011-14	
	Edinburgh (Great Britain)	10,588	2009-14	
	Ludwigshafen (Germany)	536	2009	
	Reinach (Switzerland)	840	2009	
	The Hague (The Netherlands)	1,135	2006-07	
	Mannheim (Germany)	11,864	2005-14	
	Berlin (Germany)	33,506	2004-14	
	Karlsruhe (Germany)	12,683	2003-14	
	Cologne (Germany)	4,01	2001-02	
	RHEDA MRT	Seoul, Extension of the Metro line 3 (Korea)	2 x 3,000	2008-09
		Project underground transit system Metro Madrid (Spain)	190	2005
		Project underground transit system Circle Line CCL (Singapore)	20	2004-08
		Project Franz-Mett-Strasse in Berlin (Germany)	120	2002
Project Underground Berlin / Line 2 (Germany)		195	2001	

Ballastless track systems of RHEDA types for urban transit applications

System	Project	Length [m]	Year
RHEDA MRT	Renewal of Track on the Berlin City Railways (Germany)	4 x 8,800	1996-97
RHEDA RX	Granada (Spain)	4,669	2013-14
	Berlin (Germany)	219	2013