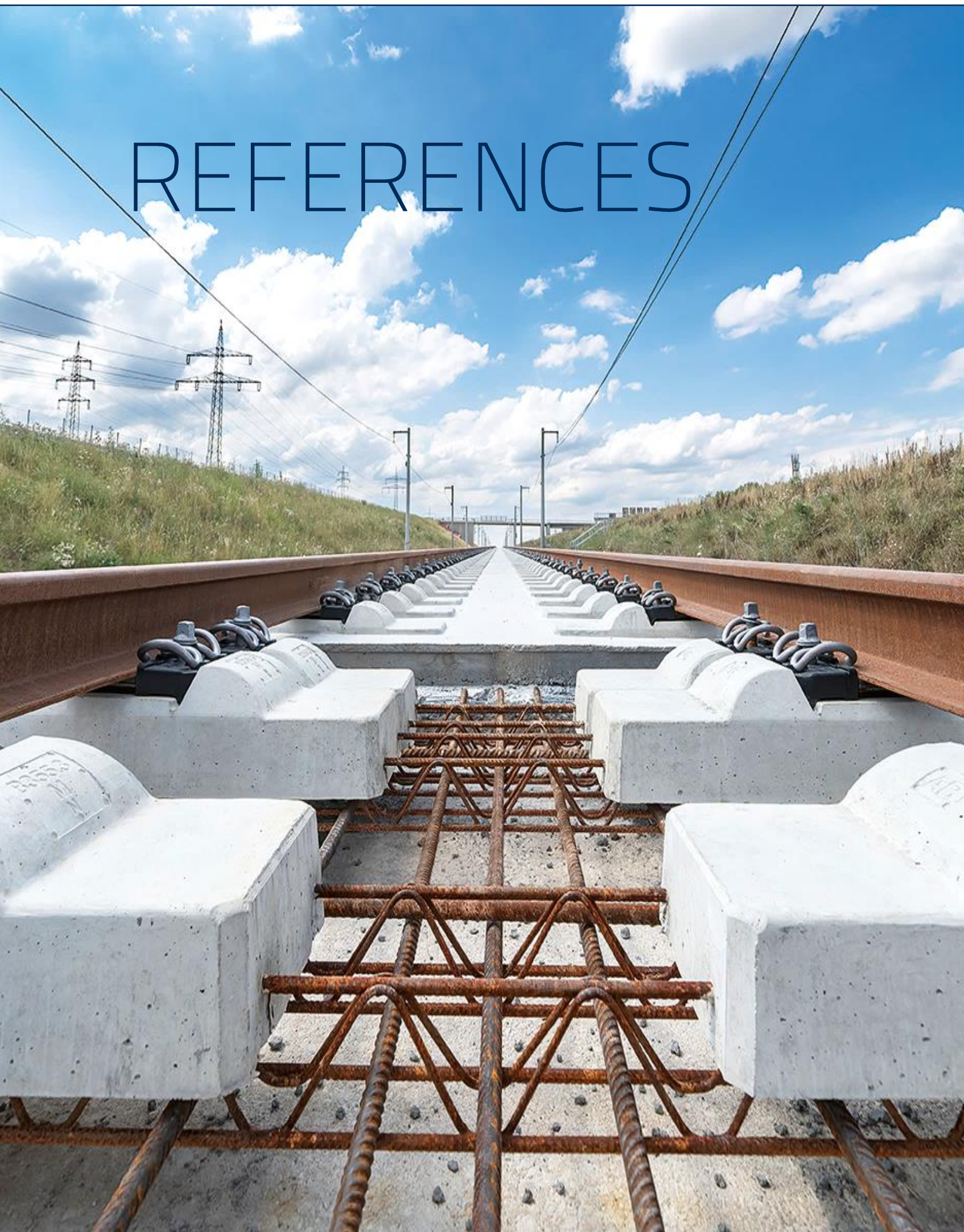


REFERENCES



References | August 2022

Ballastless track projects for Long-distance Transport & Urban Transit

System	Project	Length (m)	Year
RHEDA 2000®	Etihad (UAE)	6,950	2021-22
	Stuttgart 21, Ulm – Wendlingen (incl. mass-spring system), (Germany)	55,000 + 10,500 lin, M Turnout	2018-22
	Cortanovci-Tunnel (Serbia)	2,300	2020
	Follo-Line-Tunnel, Oslo – Ski (Norway)	2 x 20,000	2019-20
	Floen-Arna-Tunnel, Bergen (incl. mass-spring system) (Norway)	6,900	2019-20
	Rapur-Tunnel, Andra Pradesh (India)	6,600	2018-19
	Pforzheim-Tunnel (incl. mass-spring system) (Germany)	2,200	2017-18
	Riyadh Metro (Saudi Arabia)	8,750	2013-18
	Transfer table Hamburg Port (Germany)	250	2017
	Israel, Line A1 (Israel)	2,462	2016-17
	Hanau – Nantenbach (Germany)	2 x 6,000	2016-17
	Tithorea – Domokos (Greece)	732	2016
	Othrys / Kallidromos (Greece)	33,000	2015-16
	Kaiser-Wilhelm-Tunnel (Germany)	4,000	2015-16
	Alter-Bebenroth-Tunnel (Germany)	1,000	2015
	Madrid, Metro Line 7, Station San Blas – Simancas (Spain)	190	2015
	Acton Diveunder London (Great Britain)	2 x 370	2014-15
	RWE Gleiswaage (Germany)	5 x 45	2014-15

References | August 2022

System	Project	Length (m)	Year
RHEDA 2000® (Continuation)	Borders-Railway-Bowshank-Tunnel (Great Britain)	2 x 226	2014
	Granada (Spain)	4,669	2013-14
	Mecca – Medina, Haramain Line (Saudi Arabia)	2 x 80,000	2012-18
	Berlin – Munich Nuremberg – Ebensfeld – Erfurt – Leipzig / Halle (VDE 8.1 and 8.2) (Germany)	44,800 lin. M.	2012-14
	Seoul – Mokpo, between Osong – Mokpo, Honam Line (South Korea)	2 x 230,000 6,730 lin. M.	2012-14
	Alter-Schluechterner-Tunnel / between Frankfurt – Goettingen (Germany)	3,600	2012-13
	Bebenroth-Tunnel, Goettingen – Bebra line (Germany)	1,074	2012
	Turecký-Tunnel, Nove Mesto nad Vahom – Púchov line (Slovakia)	2 x 2,280	2011-12
	Busch-Tunnel Aachen (Germany)	2 x 700	2011
	ESAP Metro Athens (Greece)	33,000	2009-11
	Southampton-Tunnel (Great Britain)	2 x 550	2009-10
	City-Tunnel Leipzig (Germany)	2 x 4,000	2009-10
	Eje Atlántico rail link, various tunnel projects (Spain): Meirama Bregua Cerceda meirama	2 x 1,800 2 x 3,000	2009
	Various tunnel projects on the Madrid-Valencia high-speed line (Spain): Hoyo de Roda Umbria de los molinos Villalgordo del Cabriel Cabrera Buñol Torrent	2 x 2,000 2 x 1,500 2 x 3,300 2 x 7,200 2 x 1,900 2 x 3,000	2009
	Seoul, extension of metro line 3 (South Korea)	2 x 3,000	2008-09
	Hampstead Heath Tunnel (Great Britain)	2 x 1,044	2008

References | August 2022

System	Project	Length (m)	Year
RHEDA 2000® (Continuation)	Seoul – Busan high-speed line, 2nd section (Kyungbu line, phase 2), (South Korea)	2 x 110,500	2007-10
	High-speed line for long-distance passenger traffic Wuhan – Guangzhou, (China)	2 x 980,000	2007-10
	Perpignan – Figueras (France / Spain)	2 x 4,500	2007-08
	Udhampur – Katra (India)	10,000	2007-08
	Metro Circle Line CCL (Singapore)	20,000	2004-08
	Cologne, Mühlheim – Deutz (Germany)	2 x 300	2007
	Madrid – Barcelona, Sant-Joan-Despí-Tunnel (Spain)	2 x 15,000	2007
	Madrid – Valladolid, San Pedro Tunnel (Spain)	2 x 12,000	2007
	Wuhan – Guangzhou, test track (China)	2 x 10,000	2007
	Eje Atlántico, various tunnel projects (Spain)	2 x 8,000	2006-07
	Guadarrama-Tunnel (Spain)	2 x 30,000	2006-07
	Taipei – Kaohsiung (Taiwan)	88,000	2004-06
	Nuremberg – Ingolstadt (Germany)	2 x 36,000	2004-06
	Rudoltice – Trebovice (Czech Republic)	2 x 444	2005
	Suburban railway Tunnel Unterführung/Munich (Germany)	2 x 1,400	2005
	North-South link (Germany)	9,800	2004-05
	Esslingerberg-Tunnel (Germany)	2 x 13	2004
	Railway bridge Ul. Wielicka Krakow – Tarnow line (Poland)	2 x 18	2003
	Nuremberg – Ingolstadt, Fischbach/Feucht section, connecting track to high-speed line (Germany)	2 x 2,100	2003

References | August 2022

System	Project	Length (m)	Year
RHEDA 2000® (Continuation)	Hibel-Road-Tunnel (Great Britain)	2 x 350	2003
	Amsterdam – Brussels, HSL Zuid (Netherlands)	2 x 80,000	2002-06
	Prestbury-Tunnel (Great Britain)	2 x 513	2003
	Lehrter Bahnhof / New Berlin Central Station (Germany)	4 points	2002
	Las Palmas – Ourepesa (Spain)	2 x 430	2002
	Franz-Mett-Strasse Berlin (Germany)	120	2002
	High-speed line Cologne – Frankfurt Airport, Lot B (Germany)	2 x 95,000	1999-02
	Erfurt – Halle / Leipzig connecting line, Grosskugel section (Germany)	2 x 3,000	2001
	Metro Berlin / Line 2 (Germany)	195	2001
	Erfurt – Leipzig / Halle, Schkeuditz section (Germany)	2 x 13,500	1999-00
	Renewal of Leipzig – Erfurt line, Leislingen – Naumburg section (Germany)	2 x 1,260	1997
	Renewal of light rail arches Berlin (Germany)	4 x 8,800	1996-97
	High-speed line Hanover – Berlin, section, Zoo-Berlin central station (Germany)	4 x 8,000	1995-97
	Halle/S - Gunthershausen link, Gotha Leinakanal section (Germany)	2 x 1,490	1994
	Würzburg – Frankfurt/M., Nantenbacher Kurve section (Germany)	2 x 7,240	1993
BI-SM	Pedralba – Ourense (Spain)	14,000	2018-19

References | August 2022

System	Project	Length (m)	Year
BM-SM	Various tunnel projects "Castellbisbal" (Spain)		
	Martorell Tunnel	4,584	2019-20
	Castellbisbal Tunnel	3,271	2019-21
	Costa Blanca Tunnel	1160	2019
	Paso Bajo la AP7	75	2019
	La Robla – Campomanes (Spain)	17,000	2018-19
GETRAC® A1 (asphalt-based ballastless track system)	Port Nuremberg (Germany)	366	2010
	Wengi – Frutigen (Switzerland)	700	2004
	Lossetalbahn / Kassel (Germany)	650	2003
	Las Palmas – Ourepesa (Spain)	2 x 435	2002
	Hanover – Berlin, Berlin Westkreuz-Ruhleben section (Germany)	2 x 3,515	1994-95
GETRAC® A3 (asphalt-based ballastless track system)	Leverkusen (Germany)	1,750	2021
	Hohenturm – Peissen (Germany)	4,698	2016-17
	Lehmsief, Stolberg – Herzogenrath line (Germany)	280	2015-16
	Neuer-Schluechterner-Tunnel with trafficability (Germany)	4,080	2014-15
	Schluechterner-Tunnel / Frankfurt – Goettingen (Germany)	7,571	2008-10
	Old Mainz Tunnel (Germany)	2 x 900	2009
	Brandleite tunnel / Erfurt – Würzburg (Germany)	2 x 3,600	2005
	Esslingerberg Tunnel / Treuchtlingen (Germany)	2 x 700	2004

References | August 2022

System	Project	Length (m)	Year
GETRAC® A3 (Continuation)	Heiligenberg Tunnel (Germany)	2 x 1,300	2001-02
	Kehre Tunnel (Germany)	2 x 300	2001
RHEDA CITY	Brandenburg (Germany)	70	2022
	Parramatta (Australia)	810	2022
	Cagliari (Italy)	5,178	2021-22
	Augsburg (Germany)	6,759	2012-22
	Nuremberg (Germany)	25,593	2002-22
	Dresden (Germany)	79,508	1998-22
	Berlin (Germany)	90,594	1998-22
	Czestochowa (Poland)	102	2021
	REM Montreal (Canada)	27,000	2021
	Castellbisbal (Spain)	1,232	2020-21
	Tampere (Finland)	6,480	2017-21
	Bergen (Norway)	731	2015-21
	Heidelberg (Germany)	12,275	2004-21
	Magdeburg (Germany)	7,839	2004-21
	Mannheim (Germany)	25,204	2002-21
	Hanover (Germany)	6,352	1999-21
	Hemmingen (Germany)	59	2020
	Chemnitz (Germany)	3,340	2015-20
	Utrecht (Netherlands)	5,360	2012-20
Radebeul (Germany)	3,401	2012-20	

References | August 2022

System	Project	Length (m)	Year
RHEDA CITY (Continuation)	Frankfurt (Germany)	2,693	2009-20
	Leipzig (Germany)	11,274	2008-20
	Potsdam (Germany)	3,990	2008-20
	Warsaw (Poland)	34,086	2007-20
	Karlsruhe (Germany)	13,501	2003-20
	Ludwigshafen (Germany)	6,728	2002-20
	Nuremberg (Germany)	22,706	2002-20
	Strausberg (Germany)	12	2019
	Weinheim (Germany)	643	2018-19
	Bern (Switzerland)	388	2018-19
	Woltersdorf (Germany)	1,597	2010-19
	Cologne (Germany)	5,875	2003-19
	Poznan (Poland)	80	2018
	Gera (Germany)	225	2018
	Palembang (Indonesia)	23,400	2017-18
	Doha (Qatar)	16,959	2014-18
	Ruedersdorf / Schoeneiche (Germany)	1,059	2010-18
	Brunswick (Germany)	3,404	2000-18
	Ratingen (Germany)	653	2017
	Dessau (Germany)	1,671	2017
	Bad Duerkheim (Germany)	30	2017
	Mainz (Germany)	744	2014-17

References | August 2022

System	Project	Length (m)	Year
RHEDA CITY (Continuation)	Dublin (Ireland)	9,665	2009-17
	Schwerin (Germany)	1,109	2006-17
	Bochum (Germany)	205	2015
	Basel (Switzerland)	303	2014
	Birmingham (Great Britain)	427	2013-14
	Sosnowiec (Poland)	2,253	2013-14
	Champocologno (Switzerland)	113	2013
	Heilbronn (Germany)	2,819	2012-13
	Dublin Industrial Track (Ireland)	1,906	2011-13
	Edinburgh (Great Britain)	8,454	2008-13
	Stuttgart Industrial Track (Germany)	97	2012
	Pilsen (Czech Republic)	372	2011-12
	Kassel (Germany)	881	2007-12
	Schriesheim (Germany)	371	2003-12
	Samedan (Switzerland)	273	2011
	Tirano (Italy)	144	2011
	Prague (Czech Republic)	120	2011
	Wuerzburg (Germany)	135	2008-11
	Runkel industrial track (Germany)	517	2010
	Schoeneiche (Germany)	105	2010
Chur (Switzerland)	1,700	2005-10	
Arlesheim / Dornach (Switzerland)	150	2009	

References | August 2022

System	Project	Length (m)	Year
RHEDA CITY (Continuation)	Neuss (Germany)	60	2009
	Reinach (Switzerland)	615	2009
	Seville (Spain)	16,968	2009
	Munich (Germany)	3,130	2008-09
	Croydon (Great Britain)	142	2007-09
	Bonn (Germany)	328	2007-08
	Bucharest (Romania)	12,480	2006-07
	The Hague (Netherlands)	2,335	2006-07
	Saarbruecken (Germany)	3,820	2005-07
	Nantes (France)	1,440	2004-05
	Aken (Germany), harbor track for inland port	610	2002-03
	Duesseldorf (Germany)	1,454	2002
	Essen (Germany)	235	2002
	Bremen (Germany)	910	2001
	RHEDA CITY "Green"	Dresden (Germany)	758
Utrecht (Netherlands)		2,976	2017-22
Mannheim (Germany)		18,465	2005-22
Cologne (Germany)		4,010	2001-22
Tampere (Finland)		6,740	2017-21
Stuttgart (Germany)		71	2017-21
	Heidelberg (Germany)	6,012	2016-21

References | August 2022

System	Project	Length (m)	Year
RHEDA CITY "Green" (Continuation)	Hanover (Germany)	2,678	2016-21
	Darmstadt (Germany)	18	2020
	Faliron (Greece)	3,800	2020
	Augsburg (Germany)	3,625	2020
	Hemmingen (Germany)	641	2020
	Chemnitz (Germany)	200	2014-20
	Warsaw (Poland)	11,039	2011-20
	Berlin (Germany)	51,308	2004-20
	Karlsruhe (Germany)	22,244	2003-20
	Nordhausen (Germany)	311	2019
	Amsterdam (Netherlands)	3,700	2018-19
	Magdeburg (Germany)	1,919	2018
	Weinheim (Germany)	1,381	2018
	Ratingen (Germany)	49	2017
	Doha (Qatar)	1,076	2014-17
	Nuremberg (Germany)	145	2016
	Frankfurt (Germany)	512	2014
	Edinburgh (Great Britain)	10,588	2009-14
	Ludwigshafen (Germany)	536	2009
	Reinach (Switzerland)	840	2009
The Hague (Netherlands)	1,135	2006-07	

Selected Ballasted Track Projects

System	Project	Piece	Year
B 07	Mannheim – Stuttgart (Germany)	50,015	2020
	Hanover – Goettingen (Germany)	75,000	2018-19
	Goettingen – Fulda (Germany)	5,430	2018
	VDE 8.1, Nuremberg – Ebensfelde (Germany)	23,415	2014-16
	Muehlacker (Germany)	4,090	2015
AR 06	CTW110 Saudi Bin Ladin Group (SBG) (Saudi Arabia)	164,000	2015-20
	CTW140&130 Yapi Merkerzi construction & industry co (Saudi Arabia)	125,116	2017-19
	CTW120 Al Omaier trading & contracting co (Saudi Arabia)	189,880	2017-18
	CTW320 Al Ayuni investment & contracting co (Saudi Arabia)	300,000	2016-17
	SRLF POSCO E&C (Saudi Arabia)	13,879	2016
	CTW400 Al Ayuni investment & contracting co (Saudi Arabia)	753,860	2011-12
	CTW200 China Railway 18th Bureau (Saudi Arabia)	846,000	2008-11
B 70	Various projects (Germany)	> 22 mio.	1970-2022
	Karaman – Ulukışla (İntekar) (Turkey)	94,699	2017-19
AM	Murcia – Almeria (Spain)	2,218	2020-21
	Martorell (Spain)	3,650	2019-21
PR 01	Castellón-Vandellós (Spain)	31,250	2021-22
	Nudo de la Teja (Spain)	11,023	2021-22

References | August 2022

System	Project	Piece	Year
PR 01 (Continuation)	Brazatoras (Spain)	30,000	2021-22
	Crariñena (Spain)	65,685	2021
	La Sagrera - Barcelona (Spain)	2,915	2019-20
	Castuera (Spain)	31,730 + 28,555 pieces	2019-20
BPP-14	Monforte del Cid - Murcia (Spain)	40	2016-17
LW	Rákos – Gödöllő (Hungary)	58,450	2020
	Kelenföld – Százhalombatta (Hungary)	25,050	2019
LW, LM-S	Százhalombatta – Pusztaszabolcs (Hungary)	66,800	2020
LM-S	Szeged – Hódmezővásárhely (Hungary)	33,400	2020
UP 15	Various projects (USA)	> 1 mio.	2014-19
TRAVIESA BMA SM	Martorell – Barcelona (Spain)	40	2020