Selected References

Biturox® Bitumen Processing Units





Pörner Ingenieurgesellschaft mbH

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Client	Place	Country	Start	End
Project description	Services and supplies by Pörner	Remark	Project / Scope	
SCOP State Company for Oil Projects	Nassiriya	Iraq	2011	2018
Biturox® Nassiriya				
Installation of a grassroot refinery, including a Biturox®	License, basic engineering, procurement and supply of	330.000TPA	Green field	
Bitumen Plant with offgas treatment & heat recovery	proprietary equipment, site supervision, commissioning support	Road Grade 40/50, 60/70, 80/90; Industrial Grade 20/30	EPCM	
NRC North Refineries Company	Kirkuk	Iraq	2010	2018
Biturox® Kirkuk				
Installation of a Biturox® Bitumen Plant with offgas treatment & heat recovery; product storage and truck	License, basic engineering, site supervision, commissioning support and documentation	153.000TPA 220 TPD - Pen 40-50, Pen 60-70,	Green field	
loading area within a new grassroot refinery		Pen 80-100, Road Grade - 245 TPD, SP/Pen 115/10, SP/Pen 105/20	ECM	
ORPIC Oman Oil Refineries and Petroleum Ind. Co.	Sohar	Oman	2014	2016
Sohar Refinery Improvement Project				
Construction of a Biturox plant in an existing refinery with two reactors	License, basic engineering, detailed engineering, pilot tests, commissioning and start-up support, documentation, training	2 x 516 TPD RG: PEN 60-70	Brown field	
			E	
Saudi Aramco	Ras Tanura	Saudi Arabia	2014	2016
Biturox® Ras Tanura				
Installation of a new Biturox® bitumen processing plant for production of road grade bitumen	License, basic engineering, detailed engineering,	3.200 TPD A-970, Road grade	Green field	
production of road grade bitumen	procurement and supply of key equipment, start-up assistance, documentation	A-970, Road grade	EPCM	
Al-Wataniya Group for Oil&Gas	Beiji	Iraq	2013	2016
Biturox® Baiji (Turn-key)				
Installation of a bitumen production complex including a	License, basic engineering, detailed engineering,	2 x 250.000TPA	Green field	
biturox plant	procurement and supply of process unit, site supervision, star up assistance and documentation (turn-key)	t-Road Grade 40/50, 60/70	EP	

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SRC South Refineries Company	Maysan	Iraq	2011	2015
Biturox® Maissan				
Installation of a new Biturox® bitumen processing plant for	License, basic engineering, site supervision, commissioning	153.000TPA	Green Field	
production of road and industrial grade bitumen	support and documentation	220 TPD - Pen 40-50, Pen 60-70, Pen 80-100, Road Grade - 245 TPD, SP/Pen 115/10, SP/Pen 105/20	ECM	
State Company for Oil Projects (SCOP)	Karbala	Iraq	2009	2015
Biturox® Kerbala				
Installation of a Biturox® Bitumen plant within a grass-root	License, basic engineering, site supervision, commissioning	72.000 TPA	Green Field	
refinery; site constructions to be expected in 2014	support and documentation	200 TPD; Road Grade 30/40, 60/70, 80/100	ECM	
OJSC Novoshahtinskij Zavod Nefteproduktov	Novoshakhtinsk	Russia	2011	2014
Biturox® Rostov				
Installation of a grass root Biturox® Bitumen Plant	License, basic engineering, detailed engineering,	2 x 330.000TPA;	Brown field	
including storage tanks and filling station	procurement and supply of proprietary equipment, site supervision, commissioning support, documentation	2.200 TPD - BND 60/90, BND 40/60; BND 90/130, Road Grade	EP	
Pak-Arab Refinery Ltd (PARCO)	Qasba Gujrat	Pakistan	2008	2012
Biturox® PARCO				
Installation of a Biturox® bitumen oxidation plant for	License, basic engineering, detailed engineering, site	180.000 TPA	Green field	
production of industrial and road grade bitumen	supervision, commissioning, training and documentation	Pen 80-100, Pen 60-70, Pen 30-40, Pen 10-20, Road Grade	EP	
ESSAR OIL Ltd	Gujarat	India	2010	2011
Biturox® ESSAR				
Installation of a Biturox® bitumen oxidation plant for	License, basic engineering	72.000 TPA	Green field	
production of industrial and road grade bitumen			EP	

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CEPSA Companía Espanola de Petróleos	La Rabida	Spain	2009	2011
Biturox® CEPSA				
Installation of a Biturox® bitumen processing plant for	License, basic and detailed engineering, procurement and	390.000 TPA	Green field	
production of special road grade bitumen	supply process equipment, commissioning, start-up assistance and documentation	1.150 TPD; Road Grade 50/70, 70/100, 30/45	EP	
SAMIR Oil Refinery	Mohammedia	Могоссо	2009	2011
Biturox® SAMIR				
Turn-key installation of a Biturox® bitumen oxidation plant	Turn-key: license, financial support, project management,	290.000 TPA	Green field	
including storage tanks and HGV filling station	basic and detail engineering, purchase and supply of process unit, construction, site supervision, commissioning and documentation	Road Grade 40/50, 60/70, 80/100; Industrial Grade 90/25	EPC	
Qatar Petroleum	Al Shaheen Refinery	Qatar	2008	2008
Biturox® Qatar				
Installation of a bitumen oxidation plant according to the Biturox® Technology	License, basic engineering	100.000 TPA	Engineering	
			E	
Soroush Oil Refinery	Qeshm	Iran	2007	2007
Biturox® Meerat				
Basic engineering for a vacuum distillation plant / athmospheric distillation based on Biturox-® Plus	License. basic engineering including process, machinery/apparatus, piping layout, electric-instrumentation-	300 TPD	Modernisatio	n
technology inclusive process simulation and equipment specifications	automation and civil engineering		E	
Bharat Petroleum Kochi Refinery	Cochin	India	2006	2007
Biturox® Kochi				
Installation of a new bitumen plant incl. off gas treatment	License, basic engineering, supply of key equipment and off	1.135 TPD	Green field	
according to the Biturox® technology	gas treatment system, site supervision, commissioning, training and documentation	VG 10, VG20, VG30, VG 40, Road Grade	EP	

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Project description	Services and supplies by Pörner	Remark	Project / Scope	
Indian Oil Corporation Ltd., Mathura Refinery	Mathura	India	2006	2007
Biturox® Mathura				
Revamp of an existing bitumen plant on basis of the	License, basic engineering, detailed engineering, supply of	2.250 TPD	Modernisatio	n
Biturox® process for production of special road grade bitumen	key equipment, site supervision, start-up, training and documentation	700.000 TPA S35, S65, S90 Road Grade	EPCM	
JSC "TAIF-NK"	Nizhnekamsk	Russia	2005	2007
Biturox® Nizhnekamsk				
Installation of a Biturox® plant	Feasibility study, license, basic engineering for the process	2 x 720 TPD	Brown Field	
	unit, detail engineering, procurement and supply of the process unit, site supervision, start-up assistance and documentation	R+B: 44-48 °C, PEN 60-70, Road Grade	EPCM	
OMV AG	Schwechat	Austria	2005	2006
Biturox® OMV				
Installation of a Biturox® Bitumen plant for production of	License, basic design, detail engineering, procurement and	240 TPD	Green field	
special road paving bitumen	supply of the process unit, site supervision, start-up assistance, training and documentation	R+B: 80-90 °C,PEN 10-20 Road Grade	EPCM	
Paramo A.S.	Pardubice	Czech Republic	2005	2006
Biturox® Paramo				
Installation of a Biturox® plant for the production of	License, basic design for the process unit, detailed	1.300 TPD	Green field	
industrial and road grade bitumen	engineering, procurement and supply of the process unit, site supervision, start-up assistance, training and documentation	2150, Pen 50-70, Pen 30-50, Ben 20- 30, Pen 10-25, Pen 5-30	EP	
Grupa Lotos S.A.	Gdansk	Poland	2004	2005
Biturox® Lotos				
Extension of an existing bitumen production by Biturox®			Modernisatio	n
process	engineering, procurement and supply of key equipment, site supervision, start-up assistance, training and documentation		EPCM	

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Services and supplies by Pörner	Remark	Project / Scope	
Webau	Gemany	2004	2005
License, basic design for the process unit, detailed	250 TPD	Green field	
engineering, procurement and supply of the plant equipment and material, civil and mechanical erection, start-up assistance, training and documentation (general contracting)	Pen 10-20, 10-25, 20-30, 25-35, 30- 40	EPC	
Lavera	France	2003	2004
License. basic design for the process unit, delivery of key	750 TPD	Modernisation	
equipment (reactors, agitators) start-up assistance and trainin	g	EPCM	
Gujarat	India	2001	2002
License, basic design for the process unit, detailed	1.560 TPD	Green field	
equipment	80/100; 35 TPH, PEN 30/40;	EPCM	
Yaroslavl	Russia	2000	2002
License, basic design for process and off-plot units, detailed	960 TPD	Modernisatio	on
engineering, procurement and supply of the plant equipment and material, site supervision, start-up assistance, training and documentation	R+B: 44-48 °C, PEN 100-125 Road Grade	EPCM	
Mailiao	Taiwan	2000	2002
		Green field	
supply of equipment, site supervision, start-up assistance, training and documentation	PEN 40/50 & 85/100 Road Grade 5/20 & 15/50 Industrial Grade	EPCM	
	Webau License, basic design for the process unit, detailed engineering, procurement and supply of the plant equipment and material, civil and mechanical erection, start-up assistance, training and documentation (general contracting) Lavera License. basic design for the process unit, delivery of key equipment (reactors, agitators) start-up assistance and trainin Gujarat License, basic design for the process unit, detailed engineering, procurement and supply of selected/proprietary equipment Yaroslavl License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, site supervision, start-up assistance, training and documentation Mailiao License, basic design, detailed engineering, procurement and supply of the plant equipment and material, site supervision, start-up assistance, reaction	Webau Gemany License, basic design for the process unit, detailed engineering, procurement and supply of the plant equipment and material, civil and mechanical erection, start-up assistance, training and documentation (general contracting) 250 TPD Pen 10-20, 10-25, 20-30, 25-35, 30- 40 Lavera France License, basic design for the process unit, delivery of key equipment (reactors, agitators) start-up assistance and training 750 TPD Gujarat India License, basic design for the process unit, detailed engineering, procurement and supply of selected/proprietary equipment 1.560 TPD R+I: 65 TPH, PEN 60/70 or PEN 80/100; 35 TPH, PEN 60/70 or PEN 80/100; 35 TPH, PEN 30/40; YaroslavI Russia License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, site supervision, start-up assistance, training and documentation 960 TPD R+B: 44-48 °C, PEN 100-125 Road Grade Mailiao Taiwan License, basic design, detailed engineering, procurement and supply of equipment, site supervision, start-up assistance, training 1.032 TPD PEN 40/50 & 85/100 Road Grade	WebauGemany2004License, basic design for the process unit, detailed engineering, procurement and supply of the plant equipment and material, civil and mechanical erection, start-up assistance, training and documentation (general contracting)250 TPD Pen 10-20, 10-25, 20-30, 25-35, 30- 40Green field EPCLaveraFrance2003License, basic design for the process unit, delivery of key equipment (reactors, agitators) start-up assistance and training750 TPDModernisativ EPCMGujaratIndia2001License, basic design for the process unit, detailed engineering, procurement and supply of selected/proprietary equipment1.560 TPD R+1: 65 TPH, PEN 60/70 or PEN 80/100; 35 TPH, PEN 30/40;Green field EPCMYaroslavIRussia2000License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, site supervision, start-up assistance, training and documentation960 TPD R+8: 44-48 °C, PEN 100-125 Road GradeModernisativ EPCMMailiaoTaiwan2000License, basic design, detailed engineering, procurement and supply of equipment, site supervision, start-up assistance, training and documentation1.032 TPD PEN 40/50 & 85/100 Road GradeModernisativ EPCM

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Project description	Services and supplies by Pörner	Remark	Project / Sco	pe
BPCL Mahul Refinery	Mumbai	India	1998	2000
Biturox® Bharat				
Installation of a Biturox® bitumen processing plant incl. a	License, basic design for the process unit, detailed	2.150 TPD	Green field	
Biturox® pilot plant	engineering, procurement and delivery of key equipment, star up, training and documentation	t- 80/100 Road Grade	EPCM	
Department of Car Roads Chelyabinsk Area Administrati	or Chelyabinsk	Russia	1998	2000
Biturox® Chelyabinsk				
Installation of a Biturox® bitumen processing plant for production of road grade bitumen incl. feed unloading unit	License, basic design for the process and off-plot units, detailed engineering, procurement and supply of the plant	480 TPD R+B: 43°C, Pen 100/130	Green field	
for railway and product filling unit for trucks	equipment and material, site supervision, start-up, training and documentation	112. 10 0, 101 100 100	EPCM	
MPE Myanma Petrochemical Enterprise Ltd.	Yangon	Myanmar	1998	1999
Biturox® Myanmar				
Installation of a Biturox® bitumen processing plant for production of road grade bitumen incl. extensive transport	License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment	400 TPD; 200.000 MTPA Pen 80/100	Green field	
and loading facilities	and material, site supervision, start-up, training and documentation (general contracting)	Pen 80/100	EPC	
ESHA Smid & Hollander Raffinaderij	Amsterdam	The Netherlands	1997	1998
Biturox® Amsterdam				
Installation of a Biturox® bitumen processing plant for	License, basic design for the process unit, detailed	192 TPD	Green field	
production of industrial grade bitumen	engineering, procurement and supply of selected equipment, start-up, training and documentation	R+B: 85°C Pen 25, 95°C Pen 35	EPCM	
Visakh Refinery	Visakhapatnam	India	1997	1998
Biturox® Visakh				
Installation of a Biturox® bitumen processing plant	License, basic design for the process unit, detailed	750 TPD	Green field	
	engineering, procurement and supply of key equipment	R+B: 40-55°C, Pen 60/70	EPCM	

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Services and supplies by Pörner Plock License, extended basic design, procurement and supply of	Remark Poland	Project / Scop	
	Poland	1996	4007
License, extended basic design, procurement and supply of			1997
License, extended basic design, procurement and supply of			
	2 x 880 TPD, R+B: 45-60°C Pen 70-	Green field	
special parts for the reactors and a pilot plant, start-up, training and documentation	100, 45-60°C Pen 50-70, 50-65°C Pen 30-50, 80-90°C Pen 20-30, 100- 110°C Pen 10-25, 70- 80°C Pen 5-30	EPCM	
Schwechat	Austria	1995	1997
	Pilot Plant	Green field	
supervision, start-up assistance		EPCM	
Joilet, Illinois	USA	1996	1996
License, basic design for the process unit	1.000 TPD	Engineering	
		Е	
Rayong	Thailand	1995	1996
License, basic design for process and off-plot units, detailed	1.000 TPD;	Green field	
engineering, procurement and supply of the plant equipment and material, start-up, training and documentation (general contracting)	R+B: 50-60°C Pen 60-70, 65-80°C Pen 30-40, 90-120°C Pen 10-20	EPC	
Paulsboro, NJ	USA	1995	1995
License, detailed engineering, procurement, assembly and	Pilot Plant	Green field	
start-up as well as delivery of the pilot plant		FPCM	
	training and documentation Schwechat Basic design, detailed engineering, procurement, supply, site supervision, start-up assistance Joilet, Illinois License, basic design for the process unit Rayong License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, start-up, training and documentation (general contracting) Paulsboro, NJ	training and documentationPen 30-50, 80-90°C Pen 20-30, 100- 110°C Pen 10-25, 70- 80°C Pen 5-30SchwechatAustriaBasic design, detailed engineering, procurement, supply, site supervision, start-up assistancePilot PlantJoilet, IllinoisUSALicense, basic design for the process unit1.000 TPDRayongThailandLicense, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, start-up, training and documentation (general contracting)1.000 TPD; R+B: 50-60°C Pen 60-70, 65-80°C Pen 30-40, 90-120°C Pen 10-20Paulsboro, NJUSALicense, detailed engineering, procurement, assembly andPilot Plant	training and documentationPen 30-50, 80-90°C Pen 20-30, 100- 110°C Pen 10-25, 70-80°C Pen 5-30EPCMSchwechatAustria1995Basic design, detailed engineering, procurement, supply, site supervision, start-up assistancePilot PlantGreen field EPCMJoilet, IllinoisUSA1996License, basic design for the process unit1.000 TPDEngineering ERayongThailand1995License, basic design for process and off-plot units, detailed engineering, procurement and supply of the plant equipment and material, start-up, training and documentation (general contracting)1.000 TPD; Res 30-40, 90-120°C Pen 10-20Green field EPCPaulsboro, NJUSA1995License, detailed engineering, procurement, assembly andPilot PlantGreen field EPC

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Project description	Services and supplies by Pörner	Remark	Project / Scope	
Baku Refinery	Baku	Azerbaidjan	1994	1995
Biturox® Baku				
Installation of a Biturox® bitumen processing plant for	License, basic design, detailed engineering, procurement and	1.080 TPD	Green field	
production of industrial and road grade bitumen	supply of equipment and material, site supervision, start-up, training and documentation (general contracting) of process and off-plot units	R+B: 40-55°C Pen 60/70, 85°C Pen 25, 30°C Pen 70	EPC	
NEKRA	Turkmenbashi	Turkmenistan	1994	1995
Biturox® Krasnowodsk				
License, installation of a Paratox-Unit for preparation of	License. basic design for the process units, detailed design,	600 TPD	Green field	
the raw material of the vacuum distillation unit as well as a Biturox® bitumen processing plant	procurement and supply of equipment and material, site supervision, start-up, training and documentation (general contracting)	R+B: 60-80°C, Pen 100-150	EPC	
TOYO / MRPL	Mangalore	India	1993	1995
Biturox® Mangalore				
Installation of a Biturox® bitumen processing plant		352 TPD	Green field	
	engineering, procurement and supply of the plant equipment and material, site supervision	R+B: 40-55°C, Pen 60/70	EPCM	
Lisichanskij NPZ	Lysychansk	Ukraine	1992	1995
Bitukomb Lisichansk				
Installation of a Biturox® bitumen processing plant for	License, basic design of process and off-plot units, detailed	1.200 TPD	Green field	
production of industrial and road grade bitumen, a Bitufelt roofing material production and Bitufil rail and road tanker filling and tank yard	engineering, procurement and supply of equipment and material, site supervision, training and documentation (genera contracting)	R+B: 43°C Pen 110, 47°C Pen 80, l 51°C Pen 50, 50°C Pen 50, 85°C Pen 25, 70°C Pen 30, 90°C Pen 10	EPC	
CPCL Chennai Refinery	Chennai (Madras)	India	1994	1994
Biturox® Chennai				
Installation of a Biturox® bitumen processing plant for	License, basic design for process and off-plot units, detailed	336 TPD	Green field	
production of industrial and road grade bitumen	engineering, procurement and supply of selected equipment	R+B: 57°C, Pen 30/40	EPC	

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Project description	Services and supplies by Pörner Remark		Services and supplies by Pörner Remark Project /		Project / Sco	pe
NIOC National Iranian Oil Company	Bandar Abbas	Iran	1990	1994		
Biturox® Bandar Abbas						
Installation of a Biturox® bitumen processing plant (unit	License, basic and detailed engineering for the $Biturox \ensuremath{\mathbb{R}}$ unit	795 TPD	Engineering			
10) within the implementation of a complete petrochemical refinery	and supply of a plant model 1:33	R+G	E			
Mobil Technology Company	Melbourne	Australia	1993	1993		
Bitulab Melbourne						
Installation of a Biturox® pilot plant	License, detail engineering, procurement, assembly and start-	Pilot Plant	Green field			
	up as well as delivery of the pilot plant		EPCM			
Mobil	Adelaide	Australia	1991	1992		
Biturox® Adelaide						
Installation of a Biturox® bitumen processing plant for	License, basic design for the process unit, detailed	700 TPD	Green field			
production of Multigrade bitumen, raw material: combination of PDA pitch, extract, VR incl. pilot plant	engineering, procurement, assembly and supply of the pilot plant, start-up	R+B: 53,5℃, Pen 40	EPCM			
CPC Chinese Petroleum Corporation	Kaohsiung	Taiwan	1989	1990		
Biturox® Kaoshiung						
Installation of a Biturox® bitumen processing plant	License, basic design for the process unit	8.000 TPA	Engineering			
		R+B: 50°C, Pen 65 (Pen 60/70) 792 TPD, R+B: 95°C, Pen 5/10	Е			
NIOC National Iranian Oil Company Biturox® Esfahan	Esfahan	Iran	1988	1988		
Installation of a Biturox® bitumen processing plant	License, basic design for the process unit, detailed	1.270 TPD	Green field			
	engineering, procurement and supply of equipment					
			EPCM			

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Mobil Oil Wörth Biturox® Wörth	Wörth	Germany	1978	1978
Installation of a Biturox® bitumen processing plant	License, basic design for the process unit	800 TPD 570 TPD, R+B: 50°C, Pen 65 (Pen 60/70) 216 TPD, R+B: 85°C, Pen 25	Engineering <i>E</i>	I