



Case History – FLUOROPOLYMER LINED projects

MB PLASTICS EUROPE BV
Jelle Berendsen

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Ref.	Client	Equipment	Dimensions	No.	Media	MOC	Lining material	Opp. Temp	Opp. Press	Scope of work	Deliver
11845	NXP / lamers	Lined piping	1" – 2"	130	Chemical application	CS	PFA/PTFE			Complete steel and lining	2018
11725	Vinnolit	Lined piping	DN50 – DN80 – DN100	165	Chemical application	CS	PFA/PTFE			Complete steel and lining	2018
11420	MSD	Lining Bassin		2	Chemical application		ECTFE			Lining only	2018
10735	FEP Shelman	Dippipe	4" x 36"	1	Chemical application	CS	PFA			Complete steel and lining	2018
11547	Proviron NV	Column	DN400	1	Chemical application	CS	ETFE Ultra		Vacuum	Complete steel and lining	2018
11828	BASF/IVW	Iso-Tank	20 m3	1	Chemical application	CS	PFA			Lining only	2018
11826	BASF/IVW	Iso-Tank	14 m3	1	Chemical application	CS	PFA			Lining only	2018
11595	IVW	Iso-Tank	19 m3	2	Chemical application	CS	PFA			Lining only	2018
11410	Hoyer/IVW	Iso-Tank	23 m3	1	Chemical application	CS	PFA			Lining only	2018
11266	Johnson	Storage tank T695 & lined piping		150	Chemical application	SS316L	PFA/PTFE			Complete steel and lining	2018
11211	KMG	Storage tank		1	Chemical application	CS	PFA			Complete steel and lining	2018

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11156	Hoyer	Iso-Container	23 m3	1	Chemical application	CS	PFA			Lining only	2017
11284	Acssys	Lined piping	DN50 – DN80	200	Chemical applications	CS	PFA/PTFE				
10999	Eastman	Opslagtank D-210		1	Chemical application	CS	PFA	130°		Lining only	2017
10724	Huntsman	Opslagtank					ETFE				2016
14014	FB process equipment BV	1500 piping components	Different sizes	1500	Chemical application	CS	PTFE/PFA	80°	Atmos	Complete steel and lining	2016
10386	IVW Itiniris project	Peroxide storage tanks	380x12000mm	4	Chemical application	SS316	PFA	Not given	Atmos	Complete steel and lining	2016
14014	FB proces equipment	Butter Vessel	150x300m	1	Chemical application	CS	ETFE	80°	Atmos	Complete steel and lining antistatic	2015
11586	Evonik	Static Tank	3500x3000mm	1	Chemical application	Hastaloy	PFA	Ambient	Atmos	Reparation inner liner	2014
11528	Currenta	Ducting	Diam 1300mm	3	Chemical Application	GRP	PP	Not Given	Vacuum	Connecting pvdf inner liner	2014
11456	ICL	Injection head	80x1500mm	2	Not given	SS	PTFE	Not given	Atmos	Injection head	2014
11411	Gema	Loading equipment	1500x900mm	2	Not given		PVDF	Ambient	Not given	Full Pvdf equipment	2014
11153	Eastman	Reaction Vessel	2500mm x 2100mm	1	Not given	CS	FEP	80°	6 barg	Relining free issue steel	2013
11203	Mersen	Bottom flanges	1200mm	4	Chemical Application	CS	PFA	Not given	Atmos	Complete steel and lining	2013
10918	Merck / Ivw	Iso-Container	2500mmx 5600mm	2	Chemical Application	SS	PE	H2SO4	Atmos	Lining free issue steel	2013

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10900	Mersen	Dip pipe	4900mm	1	Chemical Application	CS	PTFE	Not given	Atmos	Complete steel and lining	2013
10838	Mersen	Doors	1500mmx 1000mm	2	Chlorine	CS	PFA	Not given	Not given	Lining free issue Steel	2013
10743	Mersen	Vessel covers	1200mm	2	Chemical Application	CS	PFA	180°	Not given	Line free issue Steel	2013
10631	Solvay Thailand	Dip pipe	6000mm	1	Chemical Application	SS	Ptfe AS	150°	Not given	Complete steel and lining	2012
10577	Lanxess	Chlorine filter plates	1800mm	2	Chemical Application	CS	ETFE	80°	Not given	Coating free issue Steel	2012
10506	Solvay / Hoyer	Iso-container 20ft	2500mm x 5500mm	1	Ammoniac	SS	PFA	Amb	Atmos	Line free issue Steel	2012
10427	Basf/ Ivw	Iso-container 20ft	2500mm x 5500mm	1	Peroxide	SS	Ptfe	Amb	Atmos	Relining / repair modified PTFE	2012
10419	Lanxess / Ivw	Storage tank	1800mm x 1020mm	1	Chemical Application	C/Steel	PVDF	70°	Atmos	Relining used Tank	2012
10064	Scharf	Storage tank	2500mm x 5600mm	1	Sulfuric Assid	C/Steel	ECTFE	80°	3 barg	Line free issue Steel	2012
1026	Ato-Fina / Alteco	Storage vessel	2500mm x 7230mm	1	Confidential	C/Steel	FEP	60°	3 barg	Line free issue steel	2012
9566	Solvay / Ivw	Iso-container	2500mm x 5500mm	1	Peroxide	C/steel	PFA	Amb	Atmos	Line free issue steel	2011
9641	Evonik	Nikkel tank Cover	3500 mm diam	1	Chemical application	Nikkel	PFA	Not given	Not Given	Line free issue steel	2011
9744	Solvay / IVW	Iso-container	2500mm x 1000mm	1	Peroxide	C/steel	Ptfe	Amb	Atmos	Line free issue steel	2011
9735	Mersen	Doors	1500mm x 1000mm	2	Chemical application	C/Steel	PFA	Not given	Not given	Line free issue steel	2011
9795	Steuler	Absorption tower	1600mm x 7230mm	1	Chlorine	C/Steel	Ectfe	80°	3 barg	Line free issue Steel	2011
9792	Thissen Krupp	Storage vessel	2800mm x 5800 mm	1	Chlorine	C/steel	Ectfe	80°	3 barg	Design Manufacture Installation	2011

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9842	Momentive	Chlorine diffuser	4800mm x 4000mm x 600mm	1	Chlorine	Hastaloy	Halar Ectfe	120°	Not given	Line free issue Steel	2011
9900	Mersen	Scrubber	2100mm x 1300mm	2	Chemical application	C/Steel	Etf	80°	4 barg	Line free issue Steel	2011
10001	GPA	Reaction tank	1100mm	1	Chemical Application	C/steel	Etf	60°	4 barg	Line free issue Steel remove old Liner	2011
9145	Eastman /Mcl	Catalysator Vessel	2500mm x 2100mm	1	Not given	C/steel	FEP	80°	4 barg	Line free issue Steel	2010
7644	Basf / Iw	Iso-container	1600mm x 5500mm	1	Semicon Application	C/steel	PvdF	Amb	Atmos	Line free issue Steel	2008
7331	Bayer/ Iw	Gas Ducting	4000mm x 5000mm	2	Fluegases	C/steel	PP	Amb	Atmos	Line free issue Steel	2007
7343	Solvay	Iso- container	2500mm x 5500mm	1	Peroxide	C/steel	PFA	Amb	Atmos	Line free issue Steel	2007
7435	Basf / Iw	Iso- container	2500mm x 5500mm	1	Semicon Application	C/Steel	PFA	Amb	Atmos	Line free issue Steel	2007
5082A	Bayer/ Iw	Gas Ducting	9000mm x 2300mm	2	Fluegases	C/steel	PP	Amb	Atmos	Line free issue Steel	2006
5082	Bayer/ Iw	Rotation wash-Unit	2500mm x 600mm	2	Fluegases	C/steel	PP	Amb	Atmos	Line free issue Steel	2005
1869	Fina	Storage tank	2200mm x 7320mm	1	Chemical application	C/steel		120°	4.9 barg	Line free issue Steel	2003
5604	LVM Holland	Reactor vessel	850mm dia x 1400mm t/t	1	Chemical application	C/steel	FEP	Not given	Not given	Strip & re-line free issue steel	2001
5846	EVC	Flue gas outle	800mm dia x 2500mm t/t	1	Flue gases	C/steel	PFA	280°	300mbar	Line free issue steel	2001

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5387	Birwelco	Storage vessel	17000mm dia x 9000mm t/t	1	Brominated water	C/steel	PVDF	Amb	Atmos	Supply & install lined vessel	2001
5455	Com	Road tanker	1850mm dia x 10000mm t/t	1	Confidential	S/steel	PP	50°	3 barg	Line free issue steel	2001
5586	BNFL	High U tank	2500mm h x 7000mm long	1	HF & Uranium	N/a	PP	50°	6 barg	Design, manufacture, install vessel	2001
5844	BNFL	High U tank	2500mm h x 7000mm long	1	HF & Uranium	N/a	PVDF	50°	6 barg	Design, manufacture, install vessel	2001
5724	Ineos Chlor	Stripping column	1100mm diaX 15000mm t/t	1	HCL	C/steel	PTFE	Not given	Not given	Line free issue steel	2001
4776	BNFL	Off gas stock tank number 2	1800mm dia x 3000mm t/t	1	Hydrofluoric acid 66%	C/steel	FEP	Amb.	-0.1 to 2 barg	Line free issue vessel	2000
4016	Rhodia	ISO tank container	2500mm dia x 5500mm t/t	1	High Purity HCL	S/steel	PFA	50°	3 barg	Line free issue steel	2000
4403	ICI	Wet collection dryer	610mm dia x 1870mm t/t	1	Not given	C/steel	ECTFE & FEP	50°	3 barg	Line free issue steel	2000
4351	Rhone Poulenc	Aqueous waste tank	7500mm L x 3500mm W x 2500mm H	1	Waste / Effluent	C/Steel	PVDF	60°	Atmos.	Design, fabricate steel, line, paint, test, and deliver complete	2000

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4556	LVM Holland	Storage vessel	1600mm dia x 6200mm t/t	1	Ethylenedic hloride	C/steel	ECTFE	70°	12.6 barg	Line free issue vessel	2000
5105	Rhodia	ISO Tank container	2500mm dia x 5500mm t/t	1	High purity HCL	S/steel	PFA	50°	3 barg	Line free issue vessel	2000
3288	Milliken & Co.	Radio Frequency tube	6000mm x 800mm x 300mm	1	Textiles	GRP	FEP	100°	4 psi	Design, draw, and fabricate RF tube	1999
1235	BNFL	Off gas stock tank	1800mm dia x 3000mm t/t	1	Hydrofluoric acid 66%	C/steel	FEP	Amb.	-0.1 to 2 barg	Line free issue vessel	1999
3316	Mitchell Cotts	Methanolic Filtrate storage	3000mm dia x 6000mm t/t	1	Solvent	S/steel	E-CTFE	30°	30/-5 mbar	Line free issue vessel	1999
3316	Mitchell Cotts	Hexane storage tank	2000mm dia x 3500mm t/t	1	Hexane	S/steel	E-CTFE	30°	40/-5 mbar	Line free issue vessel	1999
3316	Mitchell Cotts	Aqueous effluent storage tank	3000mm dia x 6000mm t/t	1	Effluent	S/steel	ECTFE	30°	30/-5 mbar	Line free issue vessel	1999
3316	Mitchell Cotts	Methanolic distillate storage tank	3000mm dia x 6000mm t/t	1	Solvent	S/steel	ECTFE	30°	30/-5 mbar	Line free issue vessel	1999
3354	ICI	Organics storage vessel 2	1700mm dia x 5200mm t/t	1	Methylene chloride, chloroform, water	C/steel	ECTFE	5°	100 mbarg	Line free issue vessel	1999

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3195	ICI	HCL Relief KO Pot	1200mm dia x 3725mm long	1	HCL 20%	C/steel	ECTFE / PTFE	Amb.	Atmos.	Line free issue vessel	1999
3893	ICI	Water scrubber circ tank	1200mm dia x 1800mm t/t	1	Chemical application	C/steel	PP	60°	3.5 barg to f.vac	Line free issue steel	1999
3983	ICI	Primary wash mixing tank	1000mm dia x 1000mm t/t	1	Organics	C/steel	PVDF	N/A	N/A	Line free issue steel	1999
3085	Varichem	Open topped mixing vessels	1100mm dia x 1000mm t/t	3	Various	C/steel	FEP	50°	Atmos	Line free issue steel	1999
3300	ICI	Drying still column	1150mm dia x 7820mm t/t	1	Chemical application	C/steel	PTFE	110°	2.14 barg	Line free issue steel	1999
3318	Rhodia	HF Pre-scrubbing column	1000mm dia x 5900mm t/t	1	HF	Incolloy	PTFE	180°	1.0 barg	Line free issue steel	1999
3379	Italprotec	Reactor cones	1000mm dia x 1500mm long	2	Not given	C/steel	PTFE	Not given	Not given	Lin free issue steel	1999
3661	ICI	Vent gas scrubber	300mm dia x 3500mm t/t	1	Chemical application	C/steel	PTFE PVDF	80°	4 barg	Line free issue steel	1999
3673	Millenium Inorganics	Bag filter discharge column	600mm dia x 2500mm t/t	1	Chemical application	C/steel	PFA PTFE	Not given	Not given	Supply complete lined column	1999

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3709	Fibracon	Slider plates	1100mm wide x upto 2400mm long	89	Not Applicable	C/steel	PTFE	Amb	None	Line free issue steel	1999
3748	ICI	Reaction vessel	800mm dia x 1500mm t/t	1	HF, Oleum, hydrofluoric	C/steel	PTFE	175°	10" wg vac	Line free issue steel	1999
3805	Novartis	Flue ducting	250mm dia x 280m long	num	Flue gas	GRP	FEP	Not gtiven	Not given	Manufacture complete	1999
4323	BNFL	Off gas stock tank	1800mm dia x 3000mm t/t	1	HF 66%	C/steel	FEP	Amb	-0.1 to 2 barg	Line free issue vessel	1999
2556a	Christ AG	H2 SO4 storage tank	2300mm dia x 3500mm t/t	1	80% high purity sulphuric acid	C/steel	PFA	140°	6 barg	Line free issue vessel	1998
2556b	Christ AG	H2 SO4 circulation tank	1400mm dia x 3500mm t/t	1	35% sulphuric acid	C/steel	PVDF	35°	6 barg	Line free issue vessel	1998
1322	Rolls Royce	Polisher vessels	1400mm dia x 1800mm t/t	8	Ultra-pure de-mineralised water	C/steel	PVDF	Amb.	9 barg	Line free issue vessels	1998
1774	ICI	Chlorine cell end plates	1000mm x 500mm	48	Chlorine	C/steel	FEP and PTFE	N/A	N/A	Bond FEP liners to steel. Machine and fit 20mm thick PTFE liners	1998
2003a	Kvaerner / ICI	Water scrubber column	800mm dia x 9200mm high	1	Confidential	C/steel	PTFE	40°	0.03 barg	Design, draw, fabricate and line vessel	1998

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2003b	Kvaerner / ICI	Caustic scrubber column	800mm dia x 10700mm high	1	Confidential	C/steel	PTFE	39°	0.02 barg	Design, draw, fabricate and line vessel	1998
2003c	Kvaerner / ICI	Stripping column	800mm dia x 7000mm high	1	Confidential	C/steel	PTFE	40°	0.3 barg	Design, draw, fabricate and line vessel	1998
2003d	Kvaerner / ICI	Knock out pot vessel	500mm dia x 1250mm high	1	Confidential	C/steel	PTFE	-15 to + 110°	0.3 barg	Design, draw, fabricate and line vessel	1998
2003e	Kvaerner / ICI	Effluent tank	1830mm dia x 1850mm t/t	1	Confidential	C/steel	FEP	30°	Atmos	Design, draw, fabricate and line vessel	1998
2900	ICI	Organics storage vessel	1700mm dia x 5200mm t/t	1	Methylene chloride, chloroform, water	C/steel	E-CTFE	5°	100 mbarg	Line free issue vessel	1998
2001	Shering Plough	ISO Tanker	1950mm dia x 2000mm t/t	1	Chemical application	S/steel	PP	N/A	N/A	Line free issue vessel	1998
2495	EVC	Flash Column C805	750mm dia x 2750mm long	1	Aqueous effluents HCL, NAOH, EDC	C/steel	FEP PTFE PFA	105°	1.5 barg	Line vessel, design, manufacture, supply internals	1998
0576	BNFL	Acid stock tank	1850mm dia x 3200mm high	1	Hydrofluoric acid	C/steel	FEP	20°	-0.1 to 2 barg	Line free issue vessel	1997
1119	ICI	HF pre-scrubbing tower	1500mm dia x 11000mm high	1	Hydrofluoric acid, sulphuric acid	C/steel	PTFE	160°	1.0 barg	Line free issue vessel	1997

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0131	Croda Colloids	DMD Vat	4000mm dia x 6000mm length	1	Dilute hydrochloric acid + bone chippings	C/steel	PVC	Amb.	Atmos.	Line free issue vessel	1997
0907a	ICI	Oxychlorination separator	2200mm dia x 6000mm t/t	1	Confidential	C/steel	PVDF	70°	7 barg	Line free issue vessel	1997
0907b	ICI	Purge gas separator	500mm dia x 2000mm t/t	1	Confidential	C/steel	PVDF	70°	7 barg	Line free issue vessel	1997
0907c	ICI	Wet vent header KO pot	927mm dia x 2746 t/t	1	Confidential	C/steel	PVDF	80°	7 barg	Line free issue vessel	1997
1348	Rhone Poulenc	CPA filter press discharge chute	2800mm x 2800mm x 7000mm	1	Copper Bromide, Sodium CB, organics	C/steel	PP	55°	Atmos	Design, draw, manufacture and install on site	1997
1315	ICI	Steam stripper feed tank	3000mm dia x 170mm t/t	1	Confidential	C/steel	PVDF	N/A	N/A	Strip and re-line free issue vessel	1997
1320	ICI	Drying still feed tank	2084mm dia x 2220mm t/t	1	CTF and organics	C/steel	PVDF	80°	Atmos	Strip and re-line free issue vessel	1997
0090	BNFL	Decontamination vessels	1200mm dia x 1200mm high	6	Fluoroboric acid	PVDF	PVDF	90°	Atmos.	Design, fabricate.	1996
0316	ICI	Reaction vessel	800mm dia x 1500mm high	1	Sulphuric acid, Oleum, Hydrofluoric acid	C/steel	PTFE	175°	10"wg vac.	Line free issue vessel, design, fabricate PTFE support cage	1996

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0347	Rhone Poulenc	ISO transport container	2500mm dia x 5500mm t/t	1	98% high purity sulphuric acid	S/steel	FEP	20°	3 barg	Line free issue vessel	1996
0963	ICI	Organics receiver vessel	1800mm dia x 2850mm t/t	1	Hydrochloric hydrofluoric acid, organics	C/steel	PVDF	80°	0.1 barg	Strip and re-line free issue vessel	1996
0215	ICI	Chlorine cell end plates	1000mm x 500mm	56	Chlorine	C/steel	PTFE	N/A	N/A	Machine and fit 20mm thick PTFE liners	1996
0091	APV	Radio Frequency Cooker tube	3000mm x 300mm x 300mm	1	Food application	GRP	FEP	N/A	N/A	Design, draw, and fabricate RF tube	1996
70/on	Allied Colloids	Polymerization vessels	1800mm dia x 2000mm long	40	Acrylic acid monomer	GRP	FEP	-3 to +90°	Atm to full vac	Re-line dished ends	1995
0901	Ballapur Ind.	Scrubber column	1500mm dia x 12000mm high	9	Phosphoric acid	C/steel	PFA	160°	2 barg	Design, fabricate, line	1995
0963	ICI	Drying still feed tank	2084mm dia x 2577mm high	1	CTF & organics	C/steel	PVDF	80°	1.5 barg	Strip existing lining and re-line free issue vessel	1995
0111	Rhone Poulenc	Storage vessel	3400mm dia x 6500mm t/t	1	98% high purity sulphuric acid	C/steel	FEP	20°	3 barg	Line free issue vessel	1995
1723	GEA	Flu gas de-sulphurization chamber	3600mm x 2740mm x 1200mm	4	Sulphuric vapours	C/steel	PFA	160°	-78 mbar	Line free issue chambers	1988

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1825	Rel. Petroleum India	Spent Caustic neutralisation acid tank	2775mm dia x 7500mm t/t	1	93% sulphuric acid	C/steel	ECTFE	65°	1 barg	Line free issue vessel on site in United Arab Emirates	1988
1813	Allied Colloids	Reactor vessel	2000mm dia x 7000mm length	1	Acrylic acid monomer	GRP	FEP	-3 to +90°	Atmos to full vac	Design, draw, manufacture vessel	1988