



FLOWTITE Case Studies

- Potable Water Reservoirs -



AMIAANTIT PIPE SYSTEMS

The FLOWTITE GRP piping products and accessories sold by the AMIANTIT Group offer many advantages for the use in drinking water applications.

The worldwide product availability of FLOWTITE GRP pipes has established potable water reservoirs all over the world. This case study brochure represents only a small extract of the available water references.

Many other countries around the world realized a huge number of installations and an increasing number of projects are recently in work.


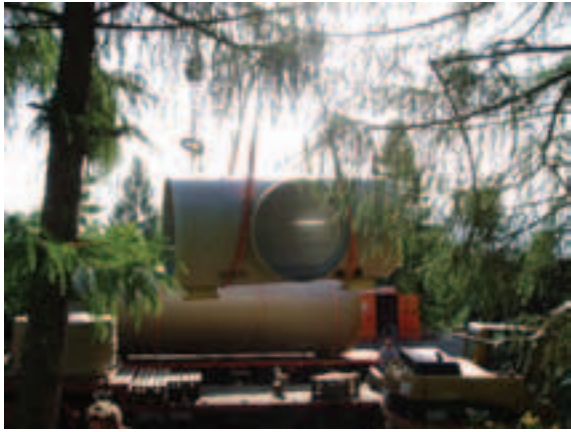

Further information about additional references and case studies can be found on our website at www.amiantit.com!

Additional information about product advantages and available product range of our GRP pipes for the use in water projects are available in our potable water and raw water brochures. Please request them from your local dealer.

Case Study -1-

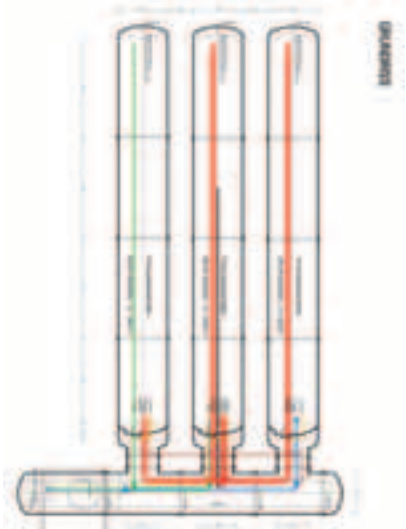
PROJECT NAME:	Potable water reservoir Gappen/Austria	
Community/Country:	Austria - Gappen/Kärnten	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir sized 100 m ³ , with 2 chambers. System with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	100m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	ÖEVGW and ÖE-Norm B5161	
<i>Special requirement on pipe-system:</i>	Fast and reliable installation	
<i>project value in US\$:</i>	US\$ 83,700	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	Community of Gappen, Austria	
consultant / engineer:	Strabag AG, Vienna Austria	
contractor:	Strabag AG, Vienna Austria	
Pipe Details - material:		
<i>Total length supplied (m):</i>	30	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	tightness tests	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2007 / 2007	
Summary:	System with a capacity 100 m ³ , only one day was necessary to shift the GRP system.	
		

Case Study -2-

PROJECT NAME:	Potable water reservoir Magdalenarberg/Oberösterreich	
Community/Country:	Austria - Magdalenarberg/Oberösterreich	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir sized 100 m ³ with 2 chambers. System with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	100m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	OEVGW certification, OE-Norm EN B 5161	
<i>Special requirement on pipe-system:</i>	Limited space	
<i>project value in US\$:</i>	US\$ 172,000	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	Maria Inzersdorf, Austria	
consultant / engineer:	Baumeister Karl Fürholzer GmbH, 4341 Arbing, Austria	
contractor:	Maria Inzersdorf, Austria	
Pipe Details - material:		
<i>Total length supplied (m):</i>	27	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	GRP flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>Project duration:</i>	7 days	
<i>Year start / end:</i>	2009 / 2009	
Summary:	Chambers built in line, system chamber is located in the middle of the potable water chambers.	
		

Case Study -3-


PROJECT NAME:	Potable water reservoir Tröpolacher Alm	
Community/Country:	Austria - Nassfeld, Kärnten	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 3 chambers and a capacity of 450m ³ ,located at 1700m sea level. System with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	450m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	OEVGW certification, OE-Norm EN B 5161	
<i>Special requirement on pipe-system:</i>	fast and reliable installation	
<i>project value in US\$:</i>	US\$ 280,000	
<i>chosen pipe system:</i>	■ GRP round filament	
<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability 	
Project owner:	WVA Hermagor, Hermagor, Austria	
consultant / engineer:	Ing. Büro Walter Brieger, Villach	
contractor:	PORR GmbH, Hermagor	
Pipe Details - material:		
<i>Total length supplied (m):</i>	29m – storage, operating and service chamber	
<i>Diameter DN min / max (mm):</i>	3000; operating and service chamber: 2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2007 / 2007	
Summary:	Currently the biggest reservoir made of GRP-pipes in Austria.	



Case Study -4-

PROJECT NAME:	Potable water reservoir St. Georgen/Steiermark	
Community/Country:	Austria - St. Georgen/Steiermark	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir sized 150 m ³ with 2 chambers. System with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	150m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	OEVGW certification, OE Norm EN B5161	
<i>project value in US\$:</i>	US\$ 148,000	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	community St. Georgen, Austria	
consultant / engineer:	PI Ingenieure GmbH, St. Lambrecht	
contractor:	Swietelsky GmbH, Graz, Austria	
Pipe Details - material:		
<i>Total length supplied (m):</i>	36	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	tightness tests	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2009 / 2009	
Summary:	150 m ³ reservoir for fire fighting purposes, use of double joints to link system chamber to the water chambers.	
		




Case Study -5-

PROJECT NAME:	Potable water reservoir Timmersdorf/Steiermark	
Community/Country:	Austria - Timmersdorf/Steiermark	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir sized 160 m ³ with 2 chambers System with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	160m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	OEVGW certification, OE Norm EN B5161	
<i>Special requirement on pipe-system:</i>	High stiffness due to location on a slope	
<i>project value in US\$:</i>	US\$ 154,000	
		
<i>chosen pipe system:</i>	■ GRP round filament	
<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability 	
Project owner:	community of Traboch, Styria, Austria	
consultant / engineer:	Plank Bachselten Ziviltechniker GmbH, Kapfenberg, Austria	
contractor:	Illichmann- Haider Bau GmbH, Garsten, Austria	
Pipe Details - material:		
<i>Total length supplied (m):</i>	42	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	tightness test	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2008 / 2008	
Summary:	160 m ³ tank system with high stiffness, double joints were used to link system chamber to water chambers.	
		

Case Study -6-

PROJECT NAME:	Potable water reservoir VELDEN/Kärnten		
Community/Country:	Austria - Velden/Kärnten		
Amiantit location	AMIAANTIT Germany GmbH		
Description:	Potable water reservoir with 2 chambers, system with operating and service chamber.		
<i>application:</i>	Potable water reservoir		
<i>stored medium:</i>	Potable water		
<i>storage capacity:</i>	100m ³		
<i>working pressure:</i>	1 bar		
<i>type of project:</i>	■ new installation		
<i>demanded standards / specifications / approvals:</i>	OEVGW certification, OE-Norm EN B 5161		
<i>Special requirement on pipe-system:</i>	High stiffness due to incline nature- fast,easy and reliable construction		
<i>project value in US\$:</i>	US\$ 137,000		
	<i>chosen pipe system:</i>		■ GRP round filament
	<i>why our product?</i>		<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ long product life; fast and easy installation; complete system; potable water capability
Project owner:	Community of Velden/Austria		
consultant / engineer:	Ingenieurbüro für Kulturtechnik und Wasserwirtschaft Ing. Walter Brieger, 9500 Villach		
contractor:	Community of Velden, Austria		
Pipe Details - material:			
<i>Total length supplied (m):</i>	32		
<i>Diameter DN min / max (mm):</i>	2400		
<i>Pressure PN min / max (bar):</i>	1		
<i>Stiffness SN min / max (N/m²):</i>	10000		
<i>joint types:</i>	FLOWTITE standard coupling		
<i>fittings used:</i>	Flanges		
Installation Details:			
<i>type:</i>	■ open trench		
<i>quality measures during installation:</i>	-		
<i>Project duration:</i>	1 week		
<i>Year start / end:</i>	2010 / 2010		
Summary:	100m ³ , high stiffness, double joint to link system chamber to water chambers.		


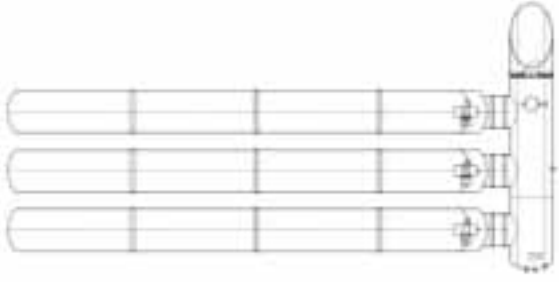

Case Study -7-

PROJECT NAME:	Potable water reservoir Albig	
Community/Country:	Germany / Albig	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 2 chambers, system with operating and service chamber. The entrance is installed on top as well as entrance above.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	600m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certified	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 314,500	
		
<i>chosen pipe system:</i>	■ GRP round filament	
<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability 	
Project owner:	Stadtwerke Kirchheimbolanden	
consultant / engineer:	Stadtwerke Kirchheimbolanden	
contractor:	Fa. Wagner Langmeil	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage – 96m; operating and service chamber - 23m	
<i>Diameter DN min / max (mm):</i>	2800, operating and service chamber - 2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges, elbows	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	1 month	
<i>Year start / end:</i>	2009 / 2009	
Summary:	The light weight of FLOWTITE GRP allowed a fast, easy and variable installation and a complete and accessible system.	
		



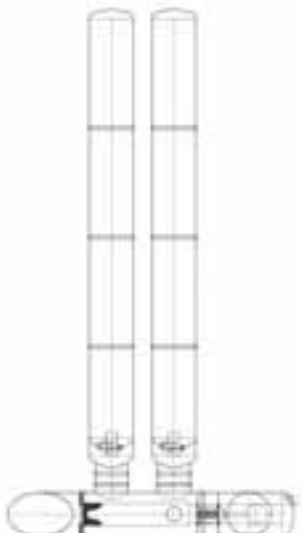
Case Study -8-

PROJECT NAME:	Potable water reservoir Brabecke	
Community/Country:	Germany / Brabecke	
Amiantit location	AMIANTIT Germany GmbH	
Description:	GRP potable water reservoir DN 2400, with operating and service chamber, three part, storage capacity 40m ³ .	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	40m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certificated	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 53,500	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	Brabecker Wasserleitungsverein e.V., Brabecke	
consultant / engineer:	Brabecker Wasserleitungsverein e.V., Brabecke	
contractor:	Brabecker Wasserleitungsverein e.V., Brabecke	
Pipe Details - material:		
<i>Total length supplied (m):</i>	12	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2009	
		




Case Study -9-

PROJECT NAME:	Potable water reservoir Breitscheid	
Community/Country:	Germany / Breitscheid	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 3 chambers, system with operating and service chamber and inside installation with pipes and fittings made of stainless steel.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	300m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certified	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 248,200	
		<p><i>chosen pipe system:</i> ■ GRP round filament</p> <p><i>why our product?</i> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability</p>
Project owner:	Verbandsgemeinde Hamm	
consultant / engineer:	iu-plan Hachenburg, Hachenburg	
contractor:	Koch GmbH & Co. KG, Westerburg	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage- 75m, operating and service chamber-10m	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	2 weeks	
<i>Year start / end:</i>	2006 / 2006	
Summary:	Capacity of the chamber: 300 m ³ ; inclusive fire water reservoir of 100 m ³ with constant circulation and inside installation.	
		


Case Study -10-

PROJECT NAME:	Potable water reservoir Dreifelden	
Community/Country:	Germany / Dreifelden	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 2 chambers, system with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	200m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certificated	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 203,700	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	Verbandsgemeinde Hamm	
consultant / engineer:	iu-plan Hachenburg, Hachenburg	
contractor:	Koch GmbH & Co. KG, Westerburg	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage - 50m, operating and service chamber - 10m	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	2 weeks	
<i>Year start / end:</i>	2007 / 2007	
Summary:	Capacity of the chamber: 200 m ³ ; inclusive fire water reservoir of 100 m ³ with constant circulation.	
		

Case Study -11-

PROJECT NAME:	Potable water reservoir Etzbach		
Community/Country:	Germany / Etzbach		
Amiantit location	AMIANTIT Germany GmbH		
Description:	Potable water reservoir with 3 chambers, system with operating and service chamber and inside installation with pipes and fittings made of stainless steel.		
<i>application:</i>	Potable water reservoir		
<i>stored medium:</i>	Potable water		
<i>storage capacity:</i>	280m ³		
<i>working pressure:</i>	1 bar / gravity		
<i>type of project:</i>	■ new installation		
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certificated		
<i>Special requirement on pipe-system:</i>	Accessible		
<i>project value in US\$:</i>	US\$ 222,800		
			<i>chosen pipe system:</i> ■ GRP round filament
			<i>why our product?</i> <ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; economical; complete system; leak-tightness, potable water capability
Project owner:	Verbandsgemeindewerke Hamm		
consultant / engineer:	iu-plan Hachenburg, Barrwiese 3, 57627 Hachenburg		
contractor:	AS – GmbH Lautert, Höhenweg 5 , 57639 Lautert		
Pipe Details - material:			
<i>Total length supplied (m):</i>	Storage - 75m; operating and service chamber - 10m		
<i>Diameter DN min / max (mm):</i>	2400		
<i>Pressure PN min / max (bar):</i>	1		
<i>Stiffness SN min / max (N/m²):</i>	10000		
<i>joint types:</i>	FLOWTITE standard coupling		
<i>fittings used:</i>	Elbows, flanges		
Installation Details:			
<i>type:</i>	■ open trench		
<i>quality measures during installation:</i>	leak testing according DVGW-W 300		
<i>Project duration:</i>	1 week		
<i>Year start / end:</i>	2005 / 2005		
Summary:	Capacity of the chamber: 280 m ³ ; inclusive fire water reservoir of 100 m ³ with constant circulation and inside installation.		
			

Case Study -12-

PROJECT NAME:	Potable water reservoir Ilbesheim	
Community/Country:	Germany / Ilbesheim	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 4 chambers, system with operating and service chamber and side entrance.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	600m ³	
<i>working pressure:</i>	6 bar	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certificated	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 241,900	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ flow characteristics ■ mech. properties ■ high product life; fast and easy installation; complete system; potable water capability, economical
Project owner:	Stadtwerke Kirchheimbolanden	
consultant / engineer:	Stadtwerke Kirchheimbolanden	
contractor:	Fa. Wagner, Langmeil	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage - 100m; service chamber - 10m	
<i>Diameter DN min / max (mm):</i>	2800, storage chamber 2400	
<i>Pressure PN min / max (bar):</i>	6	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2008 / 2008	
Summary:	Fast, easy and variable installation due to low weight GRP pipes; complete and accessible system; with side entrance.	
		

Case Study -13-

PROJECT NAME:	Potable water reservoir Nasstätten	
Community/Country:	Germany / Nasstätten	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 1 chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	30m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certified	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 31,900	
		chosen pipe system: ■ GRP round filament
		why our product? <ul style="list-style-type: none"> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	WVA Hermagor	
consultant / engineer:	Ing.- Büro B. Müller; Cologne	
contractor:	Horst Schulz Bauunternehmung GmbH, Koblenz	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage - 7m; operating and service chamber - 5m	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	2 weeks	
<i>Year start / end:</i>	2008 / 2008	
Summary:	Fast, easy and variable installation due to low weight GRP pipes; complete and accessible system; with front entrance.	
		

Case Study -14-

PROJECT NAME:	Potable water reservoir Oberrathen	
Community/Country:	Germany / Oberrathen	
Amiantit location	AMIAANTIT Germany GmbH	
Description:	Potable water reservoir with 2 chambers, system with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	100m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW certificated	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 142,600	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	ENSO Energie Sachsen Ost AG, Dresden	
consultant / engineer:	IBW Ingenieurbüro für Wasser und Boden GmbH, Bannewitz	
contractor:	ROKA Baugesellschaft mbH, Beerwalde	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage – 24m, operating and service chamber - 11m	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	1 week	
<i>Year start / end:</i>	2010 / 2010	
Summary:	Fast, easy and variable installation due to low weight GRP pipes; complete and accessible system; with ground entrance.	
		

Case Study -15-

PROJECT NAME:	Potable water reservoir Pöbnitztal	
Community/Country:	Germany / Pöbnitztal	
Amiantit location	AMIANTIT Germany GmbH	
Description:	Potable water reservoir with 4 chambers, system with operating and service chamber.	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	600m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW certificated	
<i>Special requirement on pipe-system:</i>	Accessible	
<i>project value in US\$:</i>	US\$ 445,600	
	<i>chosen pipe system:</i>	■ GRP round filament
	<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ high product life; fast and easy installation; complete system; potable water capability
Project owner:	Wasserverband Lausitz, Senftenberg	
consultant / engineer:	LUG / ETA, Cottbus	
contractor:	Kopf, Riesa / RTL Lauchhammer	
Pipe Details - material:		
<i>Total length supplied (m):</i>	Storage – 96m, operating and service chamber - 21m	
<i>Diameter DN min / max (mm):</i>	3000	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	5000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Elbows, flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leak testing according DVGW-W 300	
<i>Project duration:</i>	4 months	
<i>Year start / end:</i>	2010 / 2010	
Summary:	Fast, easy and variable installation due to low weight GRP pipes; complete and accessible system; with side entrance.	
		

Case Study -16-

PROJECT NAME:	Potable water reservoir Alp Grüm	
Community/Country:	Alp Grüm / Switzerland	
Amiantit location	AMIANITIT Germany GmbH	
Description:	GRP potable water reservoir DN 2400, with operating and service chamber, one part, storage capacity approx. 50m ³ .	
<i>application:</i>	Potable water reservoir	
<i>stored medium:</i>	Potable water	
<i>storage capacity:</i>	50m ³	
<i>working pressure:</i>	1 bar / gravity	
<i>type of project:</i>	■ new installation	
<i>demanded standards / specifications / approvals:</i>	DVGW, ISO and KTW	
<i>Special requirement on pipe-system:</i>	lightweight components with less than 1,500 kg per component as well as fast and easy installation	
<i>project value in US\$:</i>	US\$ 50,000	
		
	<i>chosen pipe system:</i>	■ GRP round filament
<i>why our product?</i>	<ul style="list-style-type: none"> ■ light weight ■ long product life; fast and easy installation; complete system; potable water capability 	
Project owner:	RhB, Bahnhofplatz, 7000 Chur	
consultant / engineer:	Capelli C. SA, Prada, 7745 Curt	
contractor:	Bühler,ENZler + Jenal, Rossbodenstrasse 15, 7000 Chur	
Pipe Details - material:		
<i>Total length supplied (m):</i>	12.8	
<i>Diameter DN min / max (mm):</i>	2400	
<i>Pressure PN min / max (bar):</i>	1	
<i>Stiffness SN min / max (N/m²):</i>	10000	
<i>joint types:</i>	FLOWTITE standard coupling	
<i>fittings used:</i>	Flanges	
Installation Details:		
<i>type:</i>	■ open trench	
<i>quality measures during installation:</i>	leakage tests	
<i>Project duration:</i>	1 day	
<i>Year start / end:</i>	2009 / 2009	
Summary:	<p>The community of Alp Grüm in Switzerland is located 2,100 m above sea level and can only be reached by railway or by foot. The more than 100 year old potable water reservoir had a limited capacity of 40 m³ and was leaking. Thus, a new potable tank with a capacity of at least more than 50 m³ was necessary. The five tank components were transported with 2 lorries to Poschiavo, the valley station. The complete installation took 6 hours.</p>	
		

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