

# GRAVITY JACKING PIPES



## ANABEEB GRP Gravity Pipe

ANABEEB GRP Gravity pipes have many industrial applications and it can be used in sewers and hydropower lines and it is manufactured by Centrifugally Cast process in accordance with EN 14364. Anabeeb GRP gravity pipes are made of glass fibre reinforced plastic (GRP) with polyester resin and chopped glass fiber. Resin creates bond between the materials. Inner surface is of pure resin and it is as smooth as glass for good flow and less maintenance. High quality resins gives excellent chemical resistance and a service life of more than sixty years. ANABEEB GRP is producing Centrifugally Cast GRP pipes since 1996. Different applications and advantages of the material is mentioned below.

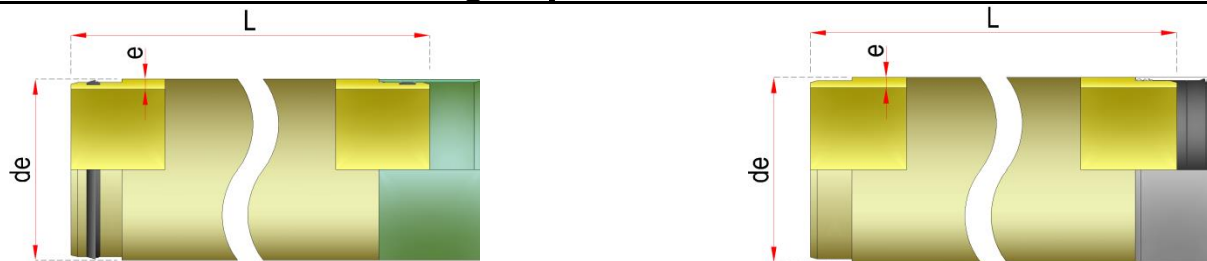
### Applications :

- ◆ Sewer Systems
- ◆ Potable Water
- ◆ Raw Water and Irrigation
- ◆ Drainage
- ◆ Industrial Applications
- ◆ Shaft and Manholes
- ◆ Hydro Power
- ◆ No Dig/ Trenchless Applications like Relining and Jacking Pipes.

### Advantages:

ANABEEB GRP pipe Systems distinguish themselves by a number of highly advantageous product qualities.

- 1. ANABEEB GRP pipes are OD controlled which gives the below benefits.**
  - ◆ Smooth outer surface.
  - ◆ Easy Installation at site.
  - ◆ Fit for various installation methods (Trench, Trenchless, relining) applications.
  - ◆ It can be cut at any place at site which avoids calibration of pipe ends for the fixing of coupler therein short pipes doesn't need to be taken back to factory for calibration and leads to saving in time & money.
- 2. Outer Layer of Ultra Violet Resistant**
  - ◆ High UV Protection outer layer with thickness of Resin & Silica sand helps to store pipes for longer period even in direct sun to avoid outer surface from any damage in case if the installation is delayed.
- 3. High Corrosive Resistant Inner Layer with pure Vinylester Resin of 1.5mm thickness.**
  - ◆ This gives the inner layer protection from any acids contents in liquid/sludge.
  - ◆ Smooth inner surface gives smooth flow to the liquid and doesn't allow any bacteria or sludge to stuck on the inner surface of the pipe which leads to reduce the maintenance cost of cleaning.
- 4. FWC Coupler with Full Faced EPDM rubber profile and lip formation (DBC).**
  - ◆ Which provides high leak tightness and helps in angular deflection
  - ◆ With the help of middle stopper it can protect the edges of the pipes not to collide with each other. GRP coupler acts as a gasket from outside and as a seal from inside between two pipes.
- 5. Highly compacted pipes due to the high speed rotation of the centrifugal casting process which results in the production of pipe with no air voids and overlapping.**
- 6. ANABEEB GRP pipes are tested 4 times of the nominal pressure which means if the nominal pressure is 6 bar our testing procedure for the acceptance criteria will be conducted on 24 bars. It allows pipe with better mechanical properties to withstand the pressure during peak times/holidays.**
- 7. ANABEEB GRP pipes standard length is 6 meters. It reduces the installation time and manpower as well.**

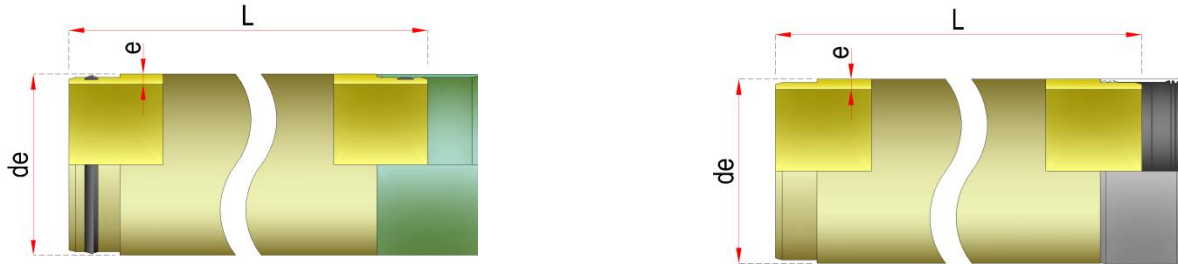


Jacking pipes with flush coupling (GRP or stainless steel), including allowable jacking forces. The standard length of the pipe is 6 m. Lengths of 1 / 2 / 3 m are available on request.

de [mm]		SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN		
Coupling		32000	40000	50000	64000	80000	100000	128000	160000	200000	320000	640000	1000000		
272	e [mm]											20	25		
	m [kg/m]											32	40		
	stainless steel											F [kN]*	204	297	
324	e [mm]											21	24	29	
	m [kg/m]											41	46	55	
	stainless steel											F [kN]*	273	341	452
376	e [mm]							20	21	24	28	33			
	m [kg/m]							47	49	55	64	75			
	stainless steel							F [kN]*	297	324	405	424	638		
427	e [mm]						20	21	22	25	29	35	40		
	m [kg/m]						54	56	59	66	76	91	103		
	stainless steel						F [kN]*	342	373	405	497	618	795	938	
GRP						F [kN]*						696	839		
478	e [mm]					22	24	26	28	30	34	42	47		
	m [kg/m]					66	72	78	84	89	100	122	135		
	stainless steel					F [kN]*	449	519	588	657	725	859	1120	1278	
GRP					F [kN]*							1015	1173		
530	e [mm]				21	24	25	27	29	32	37	45	52		
	m [kg/m]				71	81	84	90	96	106	121	145	165		
	stainless steel				F [kN]*	459	577	616	694	770	885	1071	1362	1608	
GRP				F [kN]*											

Pipes supplied with injection nozzles in coordination with the responsible ANABEEB GRP Application Engineering Department. Wall thicknesses and pipe masses are minimum values or guidelines (plus tolerances).

\*The allowable jacking force (kN) corresponds to a safety factor of 3.5 times the ultimate force calculated. Project-related static calculations can result in differing allowable jacking forces.

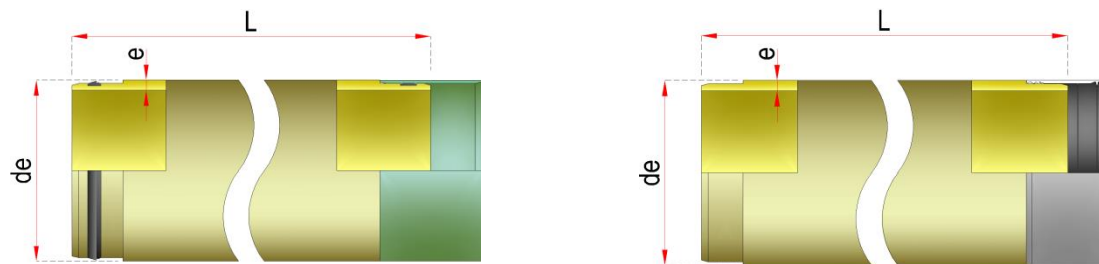


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Coupling		32000	40000	50000	64000	80000	100000	128000	160000	200000	320000	640000	1000000	
616	e [mm]		22	24	26	28	30	33	35	38	44	51	59	
	m [kg/m]		87	94	102	109	117	128	135	146	167	192	218	
	stainless steel	F [kN]*		583	675	767	858	949	1083	1172	1304	1564	1860	2188
	GRP	F [kN]*								1040	1172	1432	1727	2055
718	e [mm]	24	26	28	29	31	33	36	41	44	49	60	69	
	m [kg/m]	111	120	129	133	142	150	163	185	197	218	263	298	
	stainless steel	F [kN]*	733	842	949	1003	1109	1215	1373	1633	1787	2040	2583	3012
	GRP	F [kN]*						1121	1278	1538	1691	1944	2486	2915
820	e [mm]	26	28	30	34	36	39	43	46	50	55	68	79	
	m [kg/m]	139	149	159	180	190	204	224	239	258	282	342	391	
	stainless steel	F [kN]*	964	1088	1211	1456	1578	1758	1998	2175	2410	2699	3433	4033
	GRP	F [kN]*				1229	1351	1531	1770	1947	2181	2471	3203	3802
924	e [mm]	30	33	35	38	41	43	47	51	55	63	78		
	m [kg/m]	181	198	210	227	243	255	277	299	321	363	442		
	stainless steel	F [kN]*	1302	1511	1649	1856	2061	2197	2466	2734	2998	3520	4470	
	GRP	F [kN]*			1448	1654	1859	1995	2264	2531	2796	3316	4265	
1026	e [mm]	35	37	39	42	45	49	53	57	62	69			
	m [kg/m]	234	247	260	279	297	322	347	371	401	443			
	stainless steel	F [kN]*	1830	1984	2138	2367	2595	2897	3196	3492	3859	4366		
	GRP	F [kN]*	1585	1739	1893	2122	2350	2651	2950	3246	3612	4118		

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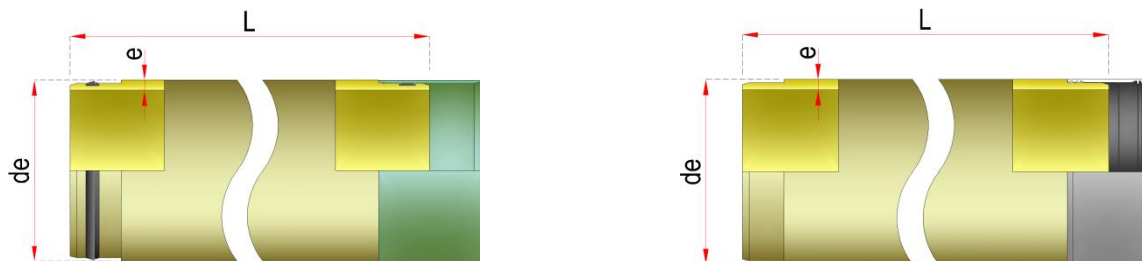
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de [mm]		SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
Coupling		32000	40000	50000	64000	80000	100000	128000	160000	200000	320000	640000	1000000
1229	e [mm]	41	44	47	50	54	57	62	67	72	82		
	m [kg/m]	331	354	376	399	429	451	488	525	561	632		
stainless steel	F [kN]*	2748	3026	3302	3576	3940	4212	4660	5105	5546	6415		
	GRP	F [kN]*	2289	2566	2842	3116	3479	3750	4198	4643	5083	5951	
1434	e [mm]	47	50	53	58	62	66	72	77				
	m [kg/m]	445	471	498	542	577	612	663	706				
stainless steel	F [kN]*	3890	4215	4537	5072	5497	5919	6548	7067				
	GRP	F [kN]*	3150	3474	3796	4330	4755	5176	5804	6323			
1535	e [mm]	49	53	57	61	65	70	76					
	m [kg/m]	501	539	577	615	653	700	755					
stainless steel	F [kN]*	3925	4389	4850	5423	5878	6331	7005	7562				
	GRP	F [kN]*	3664	4127	4587	5159	5614	6066	6739	7296			
1638	e [mm]	52	56	60	65	70	75	81					
	m [kg/m]	577	618	659	709	760	809	869					
stainless steel	F [kN]*	4585	5079	5570	6180	6786	7388	8106					
	GRP	F [kN]*	4218	4711	5202	5811	6417	7018	7734				
1842	e [mm]	59	63	68	73	78	83						
	m [kg/m]	743	789	846	903	959	101						
stainless steel	F [kN]*	6074	6630	7320	8007	8689	9368						
	GRP	F [kN]*	5224	5779	6469	7154	7836	8513					
2047	e [mm]	65	70	75	81	85							
	m [kg/m]	910	974	1038	1113	1164							
stainless steel	F [kN]*	7682	8453	9221	10136	10743							
	GRP	F [kN]*	6549	7319	8086	9000	9606						

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# Jacking Pipes de 2250-2453



Jacking pipes with flush coupling (GRP or stainless steel), including allowable jacking forces. The standard length of the pipe is 6 m. Lengths of 1 / 2 / 3 m are available on request.

de [mm]		SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN	SN
Coupling		32000	40000	50000	64000	80000	100000	128000	160000	200000	320000	640000	1000000
2250*	e [mm]	72	77	83	88	95							
	m [kg/m]	1094	1164	1248	1318	1414							
	F [kN]*	9512	10360	11373	12212	13381							
	GRP	F [kN]*	7987	8835	9846	10685	11852						
2453*	e [mm]	81	83	89	96	103							
	m [kg/m]	1337	1368	1459	1565	1671							
	GRP	F [kN]*	10127	10497	11602	12884	14157						

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