

# GRAVITY RELINING 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.**



Relining pipes are available with flush couplings (GRP or stainless steel). As alternative, relining pipes are also available as standard pipes with FW Couplings (FWC), see A01. The standard length of the pipe is 6 m. Lengths of 1 / 2 / 3 m are available on request.

Allowable insertion force for pipes with flush couplings:

			SN 5000			SN 10000			SN 16000			SN 20000		
DN	de [mm]	Coupling	m [kg/m]	e [mm]	F* [kN]	m [kg/m]	e [mm]	F* [kN]	m [kg/m]	e [mm]	F* [kN]	m [kg/m]	e [mm]	F* [kN]
800	820	stainless steel										134	25	1428
900	924	GRP										168	28	1641
900	924	stainless steel										168	28	2042
1000	1026	GRP										205	30	2238
1000	1026	stainless steel							192	28	1938	205	30	2726
1200	1229	GRP							272	33	2709	290	36	3460
1200	1229	stainless steel				239	29	2677	272	33	3625	290	36	4377
1400	1434	GRP				323	34	3238	367	38	4119	391	41	4776
1400	1434	stainless steel	266	28	3383	323	34	4716	367	38	5598	391	41	6256
1500	1535	GRP				372	36	3525	422	41	4675	450	44	5362
1500	1535	stainless steel	306	29	3643	372	36	5037	422	41	6190	450	44	6878
1600	1638	GRP	347	31	2665	421	38	4440	478	43	5698	509	46	6448
1600	1638	stainless steel	347	31	3134	421	38	4910	478	43	6169	509	46	6921
1800	1842	GRP	440	35	3112	534	42	5108	606	48	6807	646	52	7933
1800	1842	stainless steel	440	35	4658	534	42	6657	606	48	8358	646	52	9485
2000	2047	GRP	539	38	4004	655	47	6855	743	53	8742	793	57	9993
2000	2047	stainless steel	539	38	6097	655	47	8951	743	53	10840	793	57	12093
2200*	2250	GRP	648	41	4934	787	51	8419	900	59	10840	954	62	15083
2200*	2250	Stainless Steel	648	41	7794	787	51	11283	900	59	13706	954	62	15083
2400*	2453	GRP	765	45	6345	931	55	10148	1058	63	13167	1130	68	15043

Wall thicknesses and pipe masses are minimum values or guidelines (plus tolerances).

\* The allowable insertion force implies a safety factor of 1.75 of the maximum force calculated.

\*Available on Request