

FIBERTUBES

FOR CORING



CONTENTS

Introduction	1
WAVISTRONG® FIBERTUBES for coring	2
High recovery rates	2
Lightweight	2
Easy cutting	3
Corrosion free	3
Strong steel couplings	3
Service and availability	3
Handling and transportation	4
Standard sizes	4
Temperatures	4
Colour coding lines and length marking	5
Samples	5
Thermal properties	5
Sizes and allowables	6
Liners for sleeve systems	6
WAVISTRONG® FIBERTUBES for coring at a glance	6



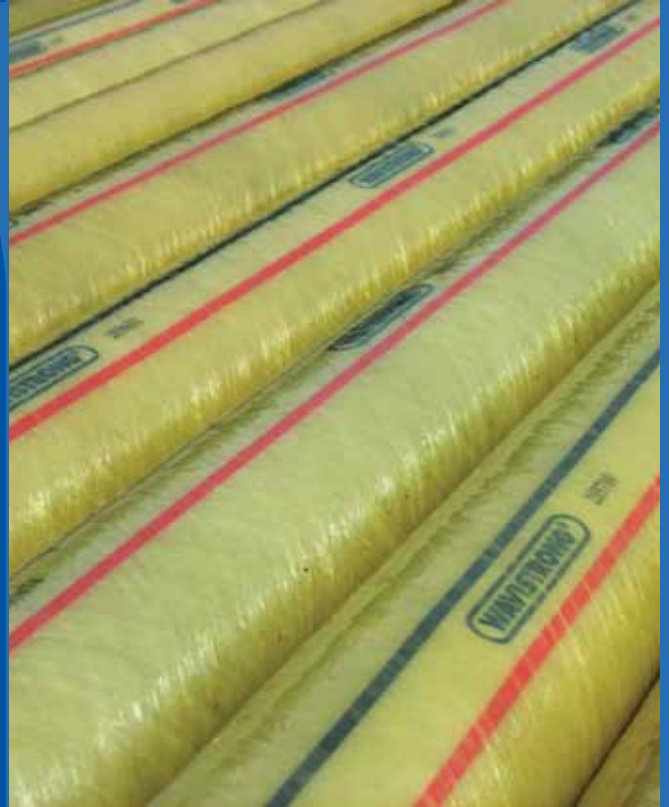
INTRODUCTION

Future Pipe Industries B.V. in The Netherlands is part of the Future Pipe Industries Group, the global leader in the fiberglass pipe industry.

The Future Pipe Industries Group has a strong track record in the design, engineering, manufacturing and installation of Glassfiber Reinforced Epoxy (GRE), Vinylester and Polyester pipe systems with well-known brands such as **WAVISTRONG®**, **FIBERMAR®**, **FIBERSTRONG®**, **RED BOX®**, **YELLOW BOX®** and **BLUE BOX®** in diameters ranging from 25mm (1") up to 4000mm (158") and pressures up to 245 bar (3500 psi).

WAVISTRONG® FIBERTUBES FOR CORING

Future Pipe Industries B.V. manufactures Fibertubes for coring since the early eighties and has developed this high quality and reliable product in house. The product consists of a filament wound Glassfiber Epoxy pipe with two special threaded and KTL-coated steel couplings (box and pin).



HIGH RECOVERY RATES

WAVISTRONG® FIBERTUBES have a very smooth inner wall and therefore provide low friction and are suitable for all coring applications from soft or fractured formations to hard and abrasive formations.

Because of the smooth inner wall, the jamming rate is low and this makes it possible to achieve high core recovery rates up to, and in excess of, 270 ft.

LIGHT WEIGHT

The low specific weight of glass reinforced epoxy of 1,85 kg/dm³ makes it easy to handle the tubes and saves money in case of airfreight.



STRONG STEEL COUPLINGS

Because the couplers are made of steel, they are strong and prevent damage from the threads.



EASY CUTTING

Compared to alternative materials **WAVISTRONG® FIBERTUBES** are very easy to cut.

The tube and the core can be cut with the same saw.

Another advantage is that the Fibertubes do not produce sparks while cutting.

SERVICE AND AVAILABILITY

To fulfil immediate needs **WAVISTRONG® FIBERTUBES** are typically delivered from stock.

CORROSION FREE

WAVISTRONG® FIBERTUBES have a very high chemical resistance to corrosive acids, salts and other chemicals often used in the drilling fluids and this means contamination of the core is prevented. Fibertubes are the ideal solution solution for high H₂S applications.





HANDLING AND TRANSPORTATION

The **WAVISTRONG® FIBERTUBES** leave the manufacturing plant equipped with protector caps on the steel couplings. These caps should only be removed prior to usage on the rig.

Because of its flexibility, Fibertubes shall be lifted at 2 points as a minimum and shall be transported on a flat surface with a minimum of 4 supports.

Crating of the **WAVISTRONG® FIBERTUBES** is an additional service we provide.

STANDARD SIZES

Most common used diameters for the Fibertubes are 2 5/8", 4" and 5 1/4" at standard lengths of 30 ft.

Special lengths can be made on request and other diameters can be evaluated based on demand.

TEMPERATURES

Low temperatures: **WAVISTRONG® FIBERTUBES** perform very well at low temperatures. Freezing of a soft core with liquid nitrogen (-196°C/ -320°F) is possible.

High temperatures: **WAVISTRONG® FIBERTUBES** can withstand 120°C (248°F), however, bottom hole temperatures up to 150°C (302°F) are allowed provided that the mud system creates a cooling effect of approximately 30°C (86°F).



COLOUR CODING LINES AND LENGTH MARKING

To ease the orientation of the core, the **WAVISTRONG® FIBERTUBES** have colour coding lines over its full length of 9.144mm (30 ft). The red and blue lines are in-erasable.



This integral colour coding eliminates the need for manual colour coding on site, which prevents mistakes and avoids disappearance of the marking.

Besides the colour coding, the tubes are equipped with a six-digit number and **WAVISTRONG®** logo length marking at each 0,25m (0,82ft).

Because of the tube's length marking, the cores can be easily put together in the laboratory. Besides preventing mistakes, the colour coding and length marking saves man-hours on site.



SAMPLES

After cutting the **WAVISTRONG® FIBERTUBES** and core into sections, the samples can be sealed with plastic end-caps which will be fastened with clamps.

THERMAL PROPERTIES

Thermal expansion
0,02 mm / m °C

Thermal conductivity
0,29 W / m °C

Specific heat
921 J / kg °C

SIZES AND ALLOWABLES

Dimensions				
Core barrel size	4 3/4" x 2 5/8"	6 3/4" x 4 "	8" x 5 1/4"	
Fiberglass inner barrel	3 3/8" x 2 7/8"	4 3/4" x 4 1/4"	6 1/4" x 5 1/2"	
Fiberglass inner diameter (mm/inch)	73,0 / 2 7/8"	108,0 / 4 1/4"	139,7 / 5 1/2"	
Nominal wall thickness (mm)	4,9	6,2	6,2	8,0
Weight per 30ft (kg)	29,0	53,0	69,0	84,0
Ultimate Tensile Force (tons/lbs)				
20° C / 68° F	7,4 / 16390	14,0 / 30860	17,9 / 39440	23,6 / 52110
60° C / 140° F	5,9 / 13110	11,2 / 24680	14,3 / 31550	18,9 / 41690
100° C / 212° F	4,5 / 9830	8,4 / 18510	10,7 / 23670	14,2 / 31270
120° C / 248° F	3,7 / 8190	7,0 / 15430	8,9 / 19720	11,8 / 26060
Allowable External Pressure (bar/psi), safety factor 1,5				
20° C / 68° F	57 / 826	38 / 551	18 / 261	39 / 565
60° C / 140° F	51 / 739	34 / 493	16 / 232	35 / 507
100° C / 212° F	43 / 623	28 / 406	14 / 203	29 / 420
120° C / 248° F	37 / 536	25 / 362	12 / 174	25 / 362

LINERS FOR SLEEVE SYSTEMS

Besides the **WAVISTRONG® FIBERTUBES** with threaded steel-couplers also fiberglass liners without steel couplers are available.

The thin wall liners have calibrated machined ends to fit exactly in the inner tube of the core barrel.



WAVISTRONG® FIBERTUBES FOR CORING AT A GLANCE

- Corrosion free
- Easy to cut (no sparks)
- Can be used for soft or fractured formations to hard and abrasive formations
- Chemical resistant to additives in mud
- Very low friction
 - ease of core penetration
 - low jamming rate
 - avoids disturbance of core samples
- Light weight – easy to handle and air freight
- Colour coding and length coding over full length

Future Pipe Industries B.V.
J.C. Kellerlaan 3, P.O. Box 255
7770 AG Hardenberg
The Netherlands

Tel: + 31 523 280 500
Fax: + 31 523 280 700

Email: info@futurepipe.nl
www.futurepipe.com