Waterline Renewal Technologies™

Product Name: Clear Cal Tube
Product Description: Bladder used for horizontal/vertical pipe rehabilitation.
Typical Applications:

Material typical used in a straight horizontal/vertical shot for pipe rehabilitation. Materials strength and flexibility allow it to be inverted and allows material to hold material against host pipe. Installation typically limited to two bends.

Performance Limits

*** If product is utilized outside the limits defined below, warranty coverage is voided ***

Characteristic	Spec	Comments
General		
Thickness of material	.30 - .35 mm	Material has good flexibility; WRT always recommends utilizing mineral oil on bladder during the inversion process to assist in the cal tubes inversion into resin saturated material.
Sizes Available (in.)	3, 4, 6, 8, 10, 12	Custom sizes are available. Contact your local sales representative to determine product suitability for your application
Resins		
PLI Epoxy	YES	Compatible with cold, warm, and hot variants of resin
PLI Vinyl Ester	Situational	Not recommended – contact PLI representative for guidance
Install Design		
Can be used across Transitions?	Yes	Always go with larger size diameter for correct cal tube size.
Remote Start Allowed?	YES	Tab cal tube to liner using tabbing adhesive **HH-66**. Refer to training manual for correct tabbing procedure.
Install with Infiltration Allowed?	Situational	Thin material may not retain enough resin in high INI situations to form structurally sound liner. **Contact PLI representative to discuss specific application.**
Installation		
Typical Inversion Pressures (psi)	5-12	Depends on installation pressures, pipe diameter, and number of bends (45° & 90°)
Maximum Inversion Pressure (psi)	20	Pressures exceeding this limit run the risk of tearing the liner or excessive “thinning” around bends
Stretch Factor (at recommended inversion pressures)	N/A	Highly dependent on inversion pressure, length of install, and pipe diameter. Stretch will be limited if the inversion rate is well controlled (slow). The larger the diameter and the longer the run, the more the material will stretch with speed.
Max Curing Pressures (psi)	15	Pressures exceeding this limit run the risk of tearing the liner or excessive “thinning” around bends
Maximum Heat Assist Temperature (°F)	220°F	Cal Tube can be cured ambient, hot water or Steam (Do Not exceed 220°F at the liner)
Handling Protocol	Note	Do not roll out on uneven surfaces including pavement (will create holes if stepped on). Do not leave out in direct sunlight for any amount of time.

Please contact your representative at 1-866-336-2568 if you have any questions.