

Allowable Cleaning Methods In Various Pipe Materials

“Mechanical cleaning tools such as cutters and brushes should not be used in plastic pipe since they can score the pipe and reduce the flow characteristics by increasing the pipe wall roughness. A suitable pipe identification system should be in place to warn the operator where plastic pipe has been installed.”

– *Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems*³

[For plastic pipe] “nozzles with flailing chains, wires or aggressively rotating nozzles should not be used.”

– *Water Jet Cleaning of Plastic Pipes*¹

“A nozzle pressure of 1,500 PSI should be maintained during the cleaning cycle...CIPP should never be mechanically cleaned.”

– *Inspection and Cleaning Guide for Cured-In-Place-Pipe (CIPP)-lined Pipes*⁴

CLEANING PROCESS	PIPE MATERIAL				
	VCP	PVC	HDPE	CIPP	FRP/GRP
HYDRO-JETTING PARAMETERS					
Safe Hydro Pressure (psi)	5,000	1,500 ⁵	Unknown	1,500 ⁴	1,200 ^{1,2}
Jet Angle Range (degrees)	6 - 90	6 - 15 ¹	6 - 15 ¹	up to 40 ⁴	6 - 15 ^{1,2}
Max. Nozzle Weight	125 lbs.	Unknown	Unknown	Unknown	5.5 lbs. ²
Min. Jet Standoff from Pipe Wall	1/4 in.	1 in. ¹	1 in. ¹	Unknown	Unknown
Jet Stationary Position	5 min.	60 sec. ¹	60 sec. ¹	Unknown	Unknown
MECHANICAL CLEANING METHODS					
Mechanical/Power Rodders	Yes	No ^{3,6}	No ^{3,6}	No ^{4,6}	No ^{2,6}
Bucket Machines	Yes	No ^{3,6}	No ^{3,6}	No ^{4,6}	No ^{2,6}
Brushes	Yes	No ^{3,6}	No ^{3,6}	No ^{4,6}	No ^{2,6}
Chain Flails	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}
Cable Flails	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}
Grinders	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}
Root Saws	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}
Tap/Can Cutters	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}
Hydraulic Root Saws	Yes	No ^{1,3,6}	No ^{1,3,6}	No ^{4,6}	No ^{2,6}

1 Plastics Industry Pipe Association of Australia Limited 2009, *Water Jet Cleaning of Plastics Pipes*, <https://www.iplex.com.au/assets/Uploads/ec9c641256/POP205.pdf>

2 Iplex Pipelines Australia Pty Limited 2017, *Flowtite® GRP Pipe Systems Cleaning*, viewed 27 April, 2017, <http://www.iplex.com.au/iplex.php?page=lib&lib=31&sec=232&chap=302>

3 New England Interstate Water Pollution Control Commission 2003, *Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems*, viewed 25 June 2020, https://www3.epa.gov/npdes/pubs/sso_optimizing_enitre_doc.pdf

4 Insituform Technologies, LLC 2018, *Inspection and Cleaning Guide for Cured-in-Place-Pipe (CIPP)-lined Pipes*

5 Wright, D., Wolgamott, J., & Zink, G. (2005) *Safe Waterjet Cleaning of Sewer Pipe*, WJTA American Waterjet Conference, Houston, TX, August 21 – 23, 2005

6 Black & Veatch Corporation for ASCE and U.S. EPA 2004, *Sanitary Sewer Overflow Solutions*, http://www3.epa.gov/npdes/pubs/sso_solutions_final_report.pdf



NATIONAL CLAY PIPE INSTITUTE
A Century Of Leadership