



Rehabilitation Technology SELECTION GUIDE

CURED-IN-PLACE-PIPE

Company	Product/Type	Mainline, Lateral Sectional	Inversion/Cure Process	Pull-In Diameter Range (in)	Inversion Diameter Range (in)
Applied Felts	Felt Liner	lateral	steam, water, ambient cure	4-108	4-108
C.I.P.P. Corp.	Felt Liner	lateral	steam, water cure	4-108	4-108
Hammer-Head	Felt Liner	lateral	steam, water, ambient		2-12
Trenchless	RS CityLiner	mainline	steam, water, ambient	6-48	6-48
	RS BlueLine	mainline	steam, water, ambient	4-48	4-48
	RS CityMain	mainline	steam, water, ambient	6-48	6-48
	Point Repair	sectional	ambient	2-60	
Infrastructure Repair Systems	Point Repair	sectional		3-100	
Inliner Technologies	CIPP	lateral, mainline	steam, water, uv cure	4-120	4-120
Insituform Technologies	CIPP	lateral, mainline	air, water inversion	4-108	4-108
			steam, water cure		
LMK Technologies	Lap Liner	main, lateral	ambient		4-24
	T-Liner	main, lateral	air/steam, ambient		6-36
	Shorty	main, lateral	air/steam, ambient		6-24
	Stubby	main, lateral	air/ambient		6-36
	Performance Liner Lateral Liner	lateral	air/steam, ambient		2-8
	Push-In-Place Spot Repair	lateral	air/steam, ambient		4 & 6
	Invert-In-Place Spot Repair	lateral	air/steam, ambient		4 & 6
	Performance Liner Sectional Inversion	sectional	air/steam, ambient		6-42
Liner Products	Felt Liner	lateral, mainline	air, water inversion, steam, water cure	4-120	4-120
Masterliner	CIPP	mainline, lateral, sectional	steam, water, air cure	up to 75	up to 75
MaxLiner	Felt Liner	lateral	steam, ambient cure	3-10	3-10
Mississippi Textiles	Felt Liner		air, water inversion	6-96	6-96
			steam cure		
National Liner	CIPP		air, water inversion	4-108	4-108
			water, steam cure		
Paltem	Super-HL	mainline	inversion/steam or ambient		8 - 40Perma-Liner
Perma-Main	mainline	water inv./steam cure		6-24	
	Perma-Lateral	lateral	air inv./ambient cure	2-12	
	Perma-Liner	sectional		6-52	
	Sectional Point Repairs			6-54	2'-30'
	Perma-Patch	lateral spot		4-6	
Premier-Pipe USA	Felt Liner	lateral			4-108
PrimeLine Products	PrimeLiner	lateral	ambient cure	2-8	
Sekisui SPR Americas	Nordpipe	mainline	air/steam inversion		6-48
	Nordiforce	mainline	water/hot water cure		

GROUT-IN-PLACE-PIPE

Company	Product	Diameter Range (in)
Danby	Panel Lok	36+
National Liner	3 - S	36+
Paltem	Flow-Ring	>32

SPRAYED-IN-PLACE-PIPE

Company	Product	Pipe Diameter (In.)	Type Pipe	Insitu/ New Pipe
3M	Scotchkote 269	4-12	water	insitu
AP/M	Permacast PL-8000	30-120	metal, concrete, clay, brick culverts, sewer pipe	insitu
Permaform	(centrifugally-cast-concrete)			
IPR	Eco-Cast	36-120	culverts, storm drains, DOT	
Quadex LLC	Quadex Lining System	30+	CMP, concrete, brick, stone	fully structural pipe- in-pipe
Sauereisen	SewerGard 210	48+	concrete, brick, metal	
SippTech	SippSteel	8 - 144	all	structurally independent - insitu
Sprayroq	SprayWall	36+	concrete, metal, culverts, storm drains, DOT, clay, brick, sewer, stormwater	
The Strong Co.	Storm Seal	18-120	metal, concrete, clay, brick	insitu
Warren Environmental			metal, concrete	

SPIRAL WOUND TECHNOLOGY

Company	Product	Diameter Range (in)
Contech	SPR PE	30-118
Engineered Solutions		
Danby	Panel Lok	36+
Sekisui SPR Americas	SPR EX	8 - 42
	SPR TF	36 - 80
	SPR TM	32 - 217

UV-LIGHT CURED-IN-PLACE-PIPE

Company	Product	Diameter Range (in)
C.I.P.P. Corp.	BKP Berolina	up to 36
Layne Inliner	Inliner STX	6-48
Reline America	Alphaliner	6-60

FOLDED PIPE

Company	Product	Pipe Type	Diameter Range (in)	Pre-Heating
American Pipe & Plastics	AM-LINER [®]	PVC	6-12	Yes
Insituform	InsituGuard	HDPE	4-48	No
IPEX USA LLC	Liner	PVC	6-30	Yes
Miller Pipeline	EX Method	PVC	6-12	Yes

Rehab Technology **SELECTION GUIDE**

SLIPLINING				
Company	Model	Diameter (in)	Pipe Material	Available Lengths
Advanced Drainage Systems (ADS)	N-12 HDPE	4-60	high density polyethylene	13', 20'
	SaniTite HP HP Storm	12-60 12-60	polypropylene polypropylene	13', 20' 13', 20'
Contech Engineered Systems	A2 Liner	12-36	PVC resin (12454)	10', 20'
	DuroMaxx	30-120	Steel Reinforced Polyethylene	14', 24'
	InnerFlow ULTRA FLO	10-63 18-120	HDPE ALT2 Corrugated Steel Pipe Polymer-Coated Steel Corrugated Pipe	Variable up to 49' 10' - 40'
	HEL-COR	6-144	ALT2 Corrugated Steel Pipe Polymer-Coated Steel Corrugated Pipe	10' - 40'
HOBAS Pipe USA	CORLIX ALSP	6-120 5' - 40'	Aluminum Aluminum Structural Plate	10' - 40'
	Tunnel Liner Plate CCFRPM	4' - 15'	Steel or Aluminum	18" plate lengths 20' standard, shorter available
ISCO Underground Solutions Inc.	Snap-Tite	6-63	HDPE	2'-50'
	Fusible PVC Pipe	4-36	PVC	20', 30', 40'
United Pipeline Systems	Tite Liner	4-54+	HDPE	1,000'
US Composite Pipe South	Flowtite	4-156	filament wound fiberglass-reinforced plastic mortar	10'-40'

GROUT			
Company	Product	Viscosity	Application
Avanti Intl.	AV-100 Chemical Grout	1-2 cP in solution	Sewer joint sealing, service lateral connections, soil stabilization, hazardous waste containment, controls groundwater in mines, tunnels & subways.
	AV-202* Multigrout	3200-6000 cP in solution	Seals leaks in large cracks or joints in concrete, dams, structures, manholes & pipe penetrations.
	Ultrafine*	water/cement ratio of 0.6/1 by weight	Pumice-based cement increases compressive strength of soils, soil stabilization, forms low-permeability grout curtains, seal seeping mines, dams & tunnels.
	AV-118 Duriflex	1-2 cP in solution	Sewer joint sealing, service lateral connections, soil stabilization, hazardous waste containment, controls groundwater in mines, tunnels & subways.
	AV-160 SuperGel	1-2 cP in solution	Sewer joint sealing, service lateral connections, soil stabilization, controls groundwater in mines, tunnels & subways.
	AV-248-LV *Flexseal LV	150-250 cP	Flexible hydrophobic withstands wet/dry cycles, seals leaks in fine to medium moving cracks and joints in concrete structures.
	AV-248 Flexseal	550-830 cP	Flexible hydrophobic withstands wet/dry cycles, seals leaks in medium to large moving cracks & joints in concrete structures.
	AV-275* SoilGrout	100-120 cP	Fills voids outside a structure or joints & cracks in concrete structures, soil stabilizer.
	AV-315* MicroFoam	50-200 cP	Seals leaks in fine cracks or joints in concrete retaining walls, parking structures, tunnels & mines.
	AV-330* Safeguard	350-750 cP	Seals leaks in medium to fine cracks or joints in subways and tunnels, tie-backs & slurry walls, manhole & pipe penetrations.
	AV-333* Injectaflex	350-750 cP	Seals leaks in medium to fine cracks or joints in concrete structures, subways, manholes, pipe penetrations.
	AV-350 Multigel	275-450 cP	Soil stabilization around manholes, pipe joints, service laterals, tunnels, dams.

* Certified for use with potable water

GROUT			
Company	Product	Viscosity	Application
Prime Resins	Prime Flex 900 XLV*	250-350 cps	Sealing leaks in extremely tight hairline cracks.
	Prime Flex 900 MV	650-700 cps	Sealing active leaks in concrete (cold joints, cracks, failed water stop). Tough and flexible. No catalyst or accelerator needed.
	Prime Flex 910	35-50 cps	Soil stabilization; curtain wall grouting; sea wall leak sealing. Hydrophobic, forms watertight, rock hard mass.
	Prime Flex 920*	120 cps	Soil stabilization, permeation grouting, void filling, gushing leak sealing, below-grade curtain grouting. Hydrophobic.
	Prime Flex 940*	450-600 csp	Sealing active leaks in joints and cracks. Hydrophobic flexible foam.
	Hydro Gel SX*	440-550 cps (20 cps at 8:1)	Sealing leaks; point repair grouting. Hydrophilic; for wet, below-grade environments such as manholes
	Prime Flex 985 (LX20*)	270-280 cps	Rigid polyurethane foam. Fills voids in/ around structures; fills abandoned underground storage tanks and pipes.
	AR 800*	1-15 cps in solution	Soil stabilization, sealing joints and leaks in potable water pipes and waste water pipes. Hydrophilic, acrylate (acrylamide-free), elastomeric gel, primarily for geotech uses. Wide window of variable set time-field adjustable. Excellent penetration in sandy/silty soils. For void fill when expansive pressure is not desired.
	AR 870	2-7 cps in solution	Sealing leaks in concrete; sealing wastewater lateral joints and leaks; controlling water in tunneling ops, elevator pits, below-grade structures.
	Precision Lift 4.0/4.75	270-280 cps	Compaction grouting, slab lifting. Hydro insensitive, polyurethane structural foam.
	Rock Grout 9200	190-200 cps	Soil stabilization, compaction grouting. Fast-reacting. Creates dense, hard fill material required for anchoring and binding aggregate.
	Prime Permeation Grout VF 3.5	35-50 cps 270-280 cps	Soil stabilization, curtain wall grouting, sea wall leak sealing. Hydrophobic. Soil stabilization, void filling, slab lifting. Hydro insensitive.
	Sealing Systems	Aqua Seal	440 cps "B" side 200 cps "A"

*Independently tested and verified to meet NSF/ANSI Standard 61 for contact with potable water.

GROUTING EQUIPMENT

TEST & SEAL PACKERS

Company	Model	Pipe Diameter (in)	Type
Logiball	2001 J Series	6-21	round pipe (vcp, acp, concrete, pvc)
	CMP Series	4-144	round pipe collapsible
	Elliptical series	(14 x 23+)	mainline test & seal packers
	Box Culvert series	up to 120	test & seal grouting packers for elliptical concrete pipe
	Flexible Push/Pull	4-10	custom made packers for box culverts
CUES	Low Void	6-18	flexible packers w/3-5ft grouting span
	Collapsible	24-96	round round

TEST & SEAL LATERAL PACKERS

Company	Model	Mainline Diameter (in)	Lateral Diameter (in)
Logiball	2001L series	6-30	4-6; 30
CUES	Logiball	6-30	3-8

INTERNAL JOINT SEALS

Company	Product	Seal Application Size (in)	Seal Operating Pressures (psi)
Cretex Specialty Products	Internal Manhole Chimney Seal	20-48	
	Internal Pipe Joint Seal	24-48	
	External Manhole Joint Seal	32-120	300 internal
	HydraTite Seal	18-216	150 external
LMK Technologies	CIPMH	up to 36	150 external
Miller Pipeline	Weko-Seal	18-216	300 internal

MANHOLES

Company	Coating	Inserts	Liners	Inverts
---------	---------	---------	--------	---------

AP/IM Permaform	Yes	Yes	Yes	Yes
No-Dig manhole solutions since 1975 provided through world-wide network of highly trained applicators; PERMAFORM, PERMACAST, CON ^{MC} SHIELD and COR+GARD offer the "hole" solution.				
Containment Solutions	No	No	Yes	No
Non-corrosive fiberglass manhole rehab liners slide into existing manholes to save time and money. Manhole bases with adhesive channels also available.				
Cretex Specialty Products	Yes	Yes	No	No
Leading manufacturer of mechanical internal and external manhole frame-chimney seals, internal joint seals, PRO-RING, external joint wraps, lid plugs, gaskets, inflow dishes and more.				
Danby	No	No	Yes	Yes
Cast-in-place new and rehab manholes using corrosion-resistant PVC liner with cementitious grout for storm and wastewater structures for over 28 years.				
HOBAS Pipe USA	No	Yes	Yes	No
Segmental sections are utilized to rehabilitate manhole shafts. The corrosion resistance and high strength composite make liner insertion quick and easy. Manhole T-base systems are available.				
Infrastructure Repair Systems	Yes	No	No	No
Infragard, a durable topcoat and Chim Coat; a flexible mastic, trowel-on 100% solid epoxy rehab material.				
Linabond	No	No	Yes	No
LMK Technologies	No	No	Yes	No
A stretchable, one-size fits most CIPP lining is designed to structurally renew manholes while eliminating inflow at its source. CIPMH can be installed as a chimney seal or full-depth manhole lining.				
Miller Pipeline	No	Yes	No	No
Perma-Liner	No	No	Yes	No
Quadex LLC (member of the Vortex family)	Yes	No	Yes	No
Since 1991, Quadex has been manufacturing and delivering the highest-quality geopolymer, hybrid cements and patching materials for the manhole/sewer infrastructure rehab market.				
Raven Lining Systems	Yes	No	Yes	No
Raven Lining Systems offers products that are solvent free 100% solids, ultra high-build epoxy coating for new and rehabilitated water/wastewater infrastructures.				
Sealing Systems	Yes	No	No	No
Sealing Systems manufactures a variety of manhole rehab products: manhole inserts, coatings (external and internal) and chemical grout.				
Sauereisen	Yes	No	No	No
Sauereisen manufactures an array of cements, calcium aluminate, 100% solids epoxies, urethanes and polyurethane grouts for stopping water inflow and preventing corrosion in wastewater manholes.				
SpectraShield Liner Systems	Yes	No	Yes	Yes
Stops infiltration, prevents corrosion, and has a 10-year warranty.				
Sprayroq Inc.	Yes	No	Yes	Yes
Structural polyurethane that is self-priming, and provides infiltration control and fast return to service.				
Standard Cement Materials	Yes	No	Yes	Yes
Standard Cement Materials manufactures and installs cementitious liners and epoxy coatings in manholes, lift stations and wet wells as a certified MBE.				
The Strong Company	Yes	No	No	No
Manhole rehab solution since 1989. The fast, cost-effective solution for stopping infiltration, restoring structural integrity and protecting against corrosion.				
Warren Environmental	Yes	No	No	No
Warren Environmental is a blender of specialty non toxic epoxy systems for the lining and rehabilitation of manholes, pipes and other potable and wastewater structures.				

REMOTE INSPECTION SYSTEMS

Company	Model	Pipe Size (in)	Pipe Length (ft)	Video	Camera	Adjust Focus
CUES	Digital Universal Camera DUC	6-60	2,000	side scan	mainline	virtual
	MP 2020	2-12	100-300	color	mini	no
	Push System					
	ProScout	4-24	1,000	color	mini/mainline	yes
	Inspector	2-200	1,000	color	mini/mainline	yes
	General					
	Qube	4-200	1,000	color	mainline	yes
	Evolution	2-200	4,000	color	mini/mainline	yes
	Mainline					
	Workhorse	2-200	4,000	color	mini/mainline	yes
	Mainline					
	LAMP Lateral & Mainline	6-36	1,500	color	mini/mainline	no
	LAMP II Lateral & Mainline Probe II	6 relined-36	1,500	color	mini/mainline	no
	OZ II & Nitelite	6-200	N/A	color	mainline	yes
	Pipe Ranger	7-60	2,000	N/A	mainline	N/A
	Transporter					
	Lite Stick	4-24	N/A	color	pole	no
	Quickzoom	4-48	100	color	pole	yes
	Sonar	8-1,200	2,800	color	mainline	N/A
	Laser Profiler	6-90	N/A	N/A	mainline	yes
	Shorty	6-36	1,500	N/A	mainline	N/A
	Transporter					
	OZIII/Compact	5-30	1,500	color	mainline	yes
Pipe Ranger						
OZIII/Ultra	5-30	1,500	color	mainline	yes	
Shorty III						
OZIII	5-72	N/A	color	mainline	yes	
Ultra Shorty 21	6-36	1,500	N/A	mainline	N/A	
Transporter						
WTRIII	6-30	1,500	N/A	mainline	N/A	
Wheeled						
K2 Series	6-200	1,200	color	mainline	yes	
Ultra Shorty III	5-30	1,500	N/A	mainline	N/A	
Track Transporter						
Steerable	24-200	2,000	N/A	mainline	N/A	
Mudmaster						
Envirosight	ROVVER X 95	4"+	+1,650'	color pan/tilt/zoom	lateral, mainline	yes
	ROVVER X 140	6"+	+1,650'	color pan/tilt/zoom	mainline	yes
	ROVVER X 400	24"+	+1,650'	color pan/tilt/zoom	mainline	yes
	ROVVER X Laser	8"+	+1,650'	color pan/tilt/zoom, side-scan	mainline	yes
	ROVVER X Digisewer QuickView	8"+	+1,650'	color side-scan	mainline	yes
	VeriSight Pro	6"+	+400'	color zoom	manhole, mainline	yes
	VeriSight Pro 360	2"+	+330'	color	drain, lateral	yes
	VeriSight Pro 360	4"+	+330'	color pan/tilt	drain, lateral	yes
	JetScan HD Video Nozzle	6"+	as long as jetter hose	color	mainline	no
R.S. Technical Services	Helix Manhole	60	up to 50' (deeper options)	N/A	6 2D cameras/ 6 live 3D sensors	N/A

LATERAL INSPECTION SYSTEMS

Company	Model	Pipe Size	Pipe Length	Air/Electric	Material	Motion
CUES	LAMP	6"-36"	1,500'	electric	all pipes	extend/retract into lateral
	LAMP II	6" relined-36"	1,500'	electric	all pipes	extend/retract into lateral from mainline
Note: both units simultaneously inspect mainlines.						
Envirosight	ROVVER X SAT	6"+	500'	electric	all pipes	extends 150' into lateral from mainline; performs pan/tilt inspection
Hammer-Head Trenchless	PortaVision	2"-6"	200'	electric	all pipes	
RS Technical Services	mainline/lateral	6"-24" mainline 4"-8" lateral	500' mainline up to 200' lateral	N/A	all pipes	dedicated lateral camera extends up to 150' from mainline

