

RockStop® Rockshield Roll & Pad Installation

PipeSak® Pipeline Protection

GENERAL

RockStop® rockshield is an engineered pipeline protection system that offers best-in-class impact and puncture resistance against rocky backfilling operations and long-term abrasion, while not impeding cathodic protection systems (CP).

Due to a proprietary blend of fibers, RockStop® rockshield is one of the lightest weight rockshields on the market allowing it to be installed in a fraction of the time compared to traditional rockshields.

RockStop® rockshield has multiple quick and easy installation methods, making it versatile, safe, and efficient for both contractors and owning companies.

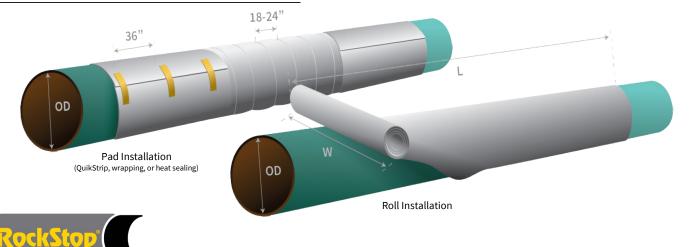
RockStop [®] Pad Dimensional Data				
Pipe (OD) in (mm)	Pad Width (W) in (mm)	Pad Length (L) in (mm)	Pad Area ft ² (m ²)	
24 (610)	84 (2,134)	88 (2,235)	51.5 (4.8)	
30 (762)	101 (2,667)	88 (2,235)	64.1 (5.7)	
36 (914)	120 (3,048)	88 (2,235)	73.3 (6.8)	
42 (1,067)	140 (3,556)	88 (2,235)	85.2 (7.9)	
48 (1,219)	160 (4,064)	88 (2,235)	97.3 (9.0)	
56 (1,422)	186 (4,724)	88 (2,235)	113.2 (10.5)	
60 (1,524)	198 (5,029)	88 (2,235)	120.5 (11.2)	

RockStop [®] Roll Dimensional Data				
Pipe (OD) in (mm)	Roll Width (W) in (mm)	Roll Length (L) ft (m)	Roll Area ft ² (m ²)	
4.5 (114)	20 (508)	75 (22.9)	125 (11.6)	
6.625 (168)	27 (785.8)	75 (22.9)	168.8 (15.7)	
8.625 (219)	33 (838.2)	75 (22.9)	206.3 (19.2)	
10.75 (273)	40 (1,016)	75 (22.9)	250.0 (23.2)	
12.75 (323)	46 (1,168.4)	75 (22.9)	287.5 (26.7)	
16 (406)	57 (1,447.8)	50 (15.2)	237.5 (22.1)	
20 (508)	70 (1,778)	50 (15.2)	291.7 (27.1)	
24 (609)	84 (2,134)	141 (43)	987.0 (91.7)	
30 (762)	105 (2,667)	141 (43)	1,234 (114.6)	
36 (914)	120 (3,048)	141 (43)	1,410 (131)	
42 (1,067)	140 (3,556)	141 (43)	1,645 (152.8)	
48 (1,219)	160 (4,064)	141 (43)	1,880 (174.7)	



Roll Installation

Pad Installation





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1. QuikStrip™ FASTENER INSTALLATION

QuikStrip[™] fasteners are provided in pre-cut lengths.

i. Drape RockStop® rockshield pads over the center of the pipe.

Rolls: roll out desired length of roll and cut with sharp safety knife if required.

Pads: move one end of RockStop® rockshield to the 10 or 2 o'clock position and hold it in place.

ii. Bring the other free end of RockStop® rockshield under the pipe and <u>underlap</u> with the end being held.

Note: Overlapping section must point downward.

- iii. To use a QuikStrip™ fastener, fasten half of a strip at the desired location, pulling tight before fastening the other half onto the opposite side of RockStop® rockshield.
- iv. Additional QuikStrip[™] fasteners should be applied every 36" (~1 m) between fasteners.

Suggestion: Apply a central strip first and work outward toward the ends to eliminate ripples and bunching.

- v. Connect adjacent rolls by overlapping 6" (15 cm) of RockStop® rockshield. Ensure adjacent rolls or pads overlap in a shingling manner, facing in the direction of lowering in to not restrict rolling cradles.
- vi. Apply 4-8 QuikStrip[™] fasteners equally spaced across the overlapping region in parallel to the pipe to connect adjacent pads.

Suggestion: Three revolutions of butyl tape or the equivalent should be used to fix the leading edge of RockStop® rockshield when using rolling cradles.









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weld.

2. RockStop® LT HEAT TOOL INSTALLATION RockStop® rockshield can be connected by heating the overlapping region to produce a heat

- i. Drape RockStop® rockshield over the pipe (QuikStrip™ fasteners can be used to temporarily hold RockStop® rockshield prior to heat welding).
- ii. <u>Ensure the overlap points downward</u> (located at the 10 or 2 o'clock position).
- iii. Using the RockStop® LT Heat Tool, consistently heat
- iv. 24" (61 cm) of the overlapping section for 3-5 seconds.
- v. Firmly apply pressure in a side-to-side motion to the overlapping region for 2-3 seconds to secure. QuickStrip™ fasteners can be lifted to allow heat-weld and can be reapplied or completely removed.
- vi. Connect adjacent pads by overlapping 6" (15cm) of RockStop® rockshield and heat weld around the circumference of the pipe. Shingling overlap should face direction of lowering-in.





RockStop® LT Heat

3. SPIRAL WRAP INSTALLATION

Butyl tape can be continuously wrapped around the pipe to install RockStop® rockshield. Minimum 2" (5 cm) tape width required.

- i. Drape RockStop® rockshield pad over the center of the pipe. Overlap the free ends at the preferred location (10 or 2 o'clock), ensuring overlap points downward.
- ii. Spiral wrap tape around the pipe at a maximum spacing of 18" 24" (46 cm 61 cm).
- iii. Connect adjacent pads by overlapping 6" (15 cm) of RockStop® rockshield and continue to spiral wrap in the same configuration.

Suggestion: Ensure adjacent pads overlap in a shingling manner, facing in the direction of lowering-in to assist with rolling cradles.

iv. Three revolutions of butyl tape should be used to fix the leading edge of RockStop® rockshield when using rolling cradles.







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Technical Notes

RockStop® Rockshield Storage Instructions

RockStop® ROCKSHIELD: STORAGE INSTRUCTIONS

- Maintain product packing until time of installation.
- Care should be taken when handling. Equipment forks should be routinely checked for sharp burrs and edges that may damage RockStop® rockshield.
- When storing, avoid direct contact with the ground by using appropriately sized pallets, tarp, poly, etc.
- Any damaged RockStop® rockshield should be set aside for inspection or discarded.
- Keep RockStop® rockshield dry prior to installation. Secondary tarping may be required.
- Re-cover during winter/wet installation conditions.
- Pallet covers must be replaced on partially used pallets.
- For long-term storage, protection from a secondary tarp is recommended.

RockStop® ROCKSHIELD: SAFETY RECOMMENDATIONS

- Do not attempt to lift master rolls manually, only use PipeSak® approved spreader bars.
- Ensure all associated equipment such as spreader bars, rigging and heat welding equipment are inspected daily.
- Workers must wear appropriate PPE and be vigilant toward machinery used for installation.
- Care should be taken when using heating equipment near the pipeline coating heat must always be applied to RockStop® rockshield not directly to the pipe.
- Do not heat RockStop® rockshield excessively. Only use a RockStop® LT Heat Tool to ensure even distribution of heat.
- Other site-specific hazards should be addressed in the field-level hazard assessment.



