

KRIDHAN

Passionate about Innovation & Quality

PIPE ROOFING SYSTEM

Forepoling
Canopy Tubes
Tube Umbrella System



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Description

For complex geotechnical drilling requirements, Kridhan Infratech offers advanced case-advancing systems that deliver dependable performance across various construction methods such as forepoling, well drilling, and anchoring. These drilling systems employ casing tubes that penetrate overburden layers in an umbrella pattern and are later grouted to ensure stability.



The casing solution allows for smooth and efficient installation of casing tubes into the ground while operating with low torque requirements. Kridhan Infratech provides a complete portfolio of solutions designed to perform reliably in weak ground conditions and are compatible with both top-hammer jumbo rigs and DTH drilling rigs.

Kridhan Infratech also supplies a full suite of forepoling drilling tools, including pilots, ring bits, casing tubes, starter casings, drill rods, grouting plugs, and shanks. These systems are suitable for use in both permanent and temporary casing applications.

Applications

Kridhan Infratech Casing Systems are engineered to meet the requirements of major ground drilling works, including:

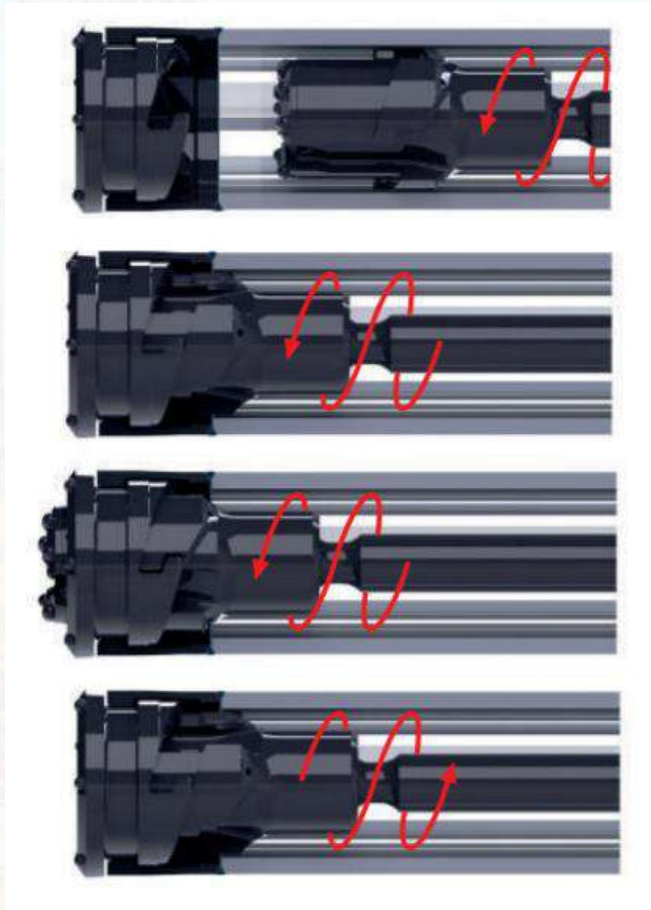
- ✓ Forepoling and anchoring operations
- ✓ Piling and underpinning projects
- ✓ Site investigation and geotechnical studies
- ✓ Water and geothermal well drilling
- ✓ Horizontal and directional drilling

Features & Benefits

- ✓ Fast drilling with simple operation
- ✓ Trouble-free and reliable drilling
- ✓ Straight and accurate holes
- ✓ No unnecessary soil flushing
- ✓ Cost-effective system
- ✓ Low investment and operating costs
- ✓ Higher productivity per time unit
- ✓ Reduced setup time
- ✓ Extended pilot bit life

Technological Features

Kridhan Infratech's casing systems incorporate a robust locking mechanism that helps prevent damage or disturbance in complex ground conditions or near existing foundations, ensuring safer and more controlled drilling operations. The systems operate by:



1. A pilot bit is driven through the casing tube.
2. The tube is then rotated to locked position with the ring bit.
3. The casing system is ready to drill.
4. To finish drilling the pilot bit is rotated in the opposite direction and pulled out.

Technical Specification

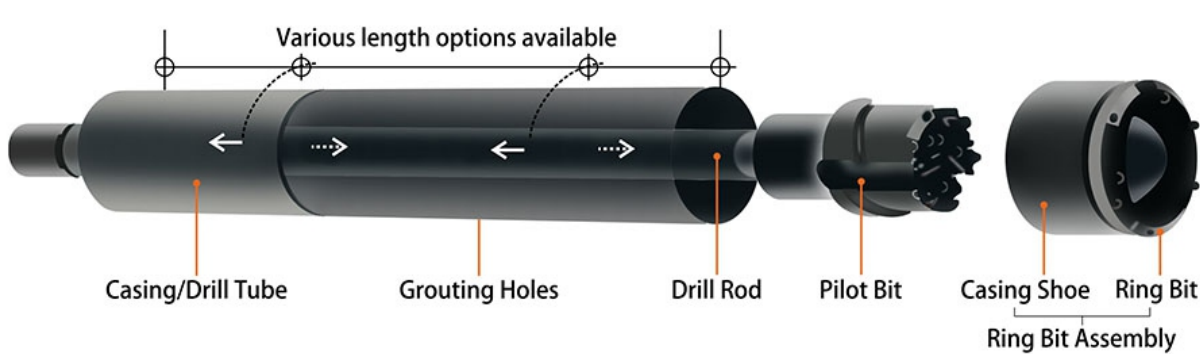
Pipe Roofing System

	KFS 76 (E)	KFS 76	KFS 88 (E)	KFS 88	KFS 114 (E)	KFS 114	KFS 139
Diameter of Pipe (mm)	76.1	76.1	88.9	88.9	114.3	114.3	139
Thickness of Pipe (mm)	5.60	6.00	6.50	8.00	6.50	8.00	10.00
Pilot Bit Thread	R32	R32	T38	T38	T38	T38	T45



Kridhan Infratech's System (114 as illustration)

- ① **KFS114 pilot bit C38**
 - ② **KFS114 ring bit assembly & starter casing**
 - Steel casing 114 including KFS114 ring bit assembly
 - 1 side male threaded, L=3000mm - 6000mm with grouting holes + valves
 - ③ **Extension Casing**
 - Steel casing
 - 2 side male-female threaded, L = 3000mm - 6000mm
 - ④ **Extension M/F Rod C38 – round 39 C38 , L=3050mm or 3660 mm**
- Optional,
- ⑤ **Grouting Plug (end cap)**
 - ⑥ **Shank adapter for needed rig/drift**



Casing Tubes

Each pile typically consists of multiple steel casing sections measuring 1.5–3 metres, connected via threaded joints and equipped with injection valves for grouting. Standard casing diameters include 76.1 mm, 88.9 mm, 114.3 mm, and 139.7 mm.

Preparation

Kridhan Infratech ring assemblies are factory-welded to the starter casing, complete with casing shoes, in accordance with approved welding standards.

- ✓ En499: E42 6B 42 H5
- ✓ AWS/ASME: SFA-5.1/E7018-1
- ✓ DIN8529: ESY 42 76 Mn B

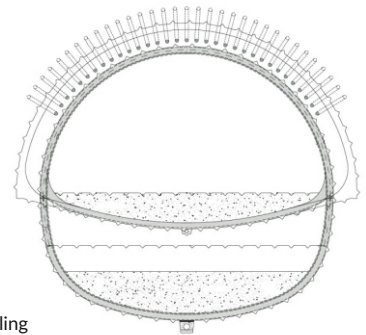
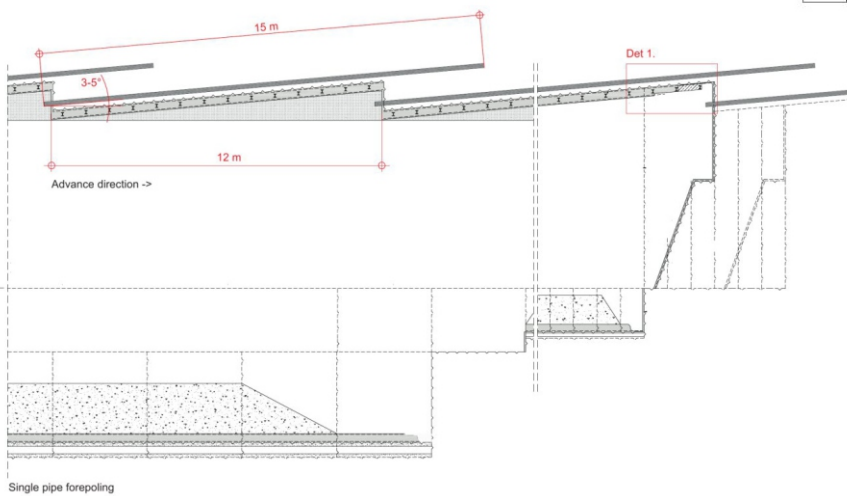
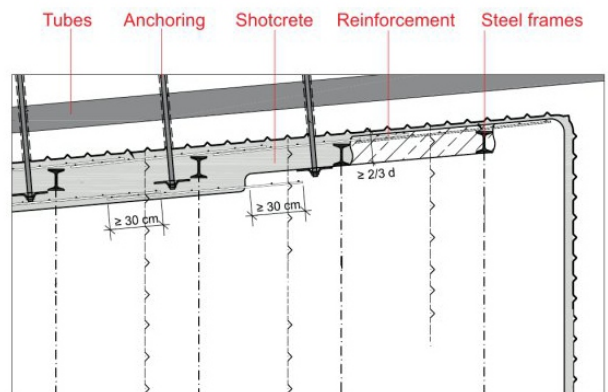
Required Equipment

The system is compatible with most standard drill rigs for tube umbrella drilling. Typically used with jumbo drills, operator basket booms, or auxiliary lifters. Supports both Top Hammer and DTH drilling methods.



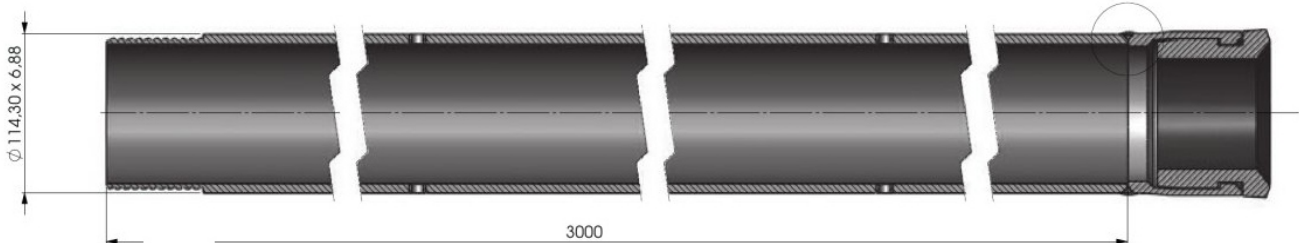
Typical Design

- Each advance generally consists of 20–40 casing tubes.
- Individual piles are approximately 15 meters in length, enabling a tunnel advance of about 12 meters.
- The casing tubes are installed at an inclination of 3–5 degrees relative to the tunnel advance direction.
- Casing dimensions and other technical parameters are specified by qualified tunnel engineers and geologists in accordance with prevailing ground conditions.

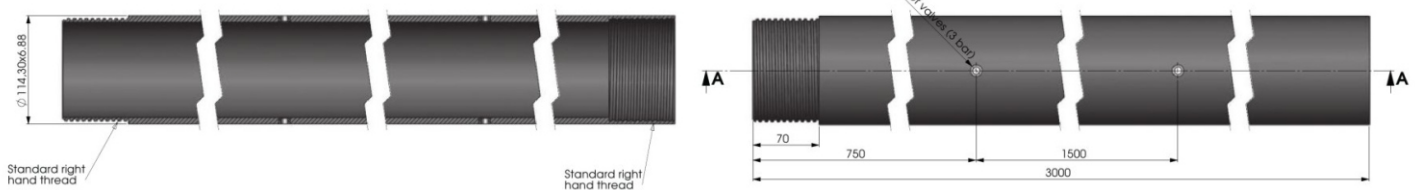


Cross section of single pipe forepoling

Drill Tubes - Starter Casing e.g. for SRE 114,3



Drill Tubes - Extension Casing e.g. for SRE 114,3





Rebar Coupler



Sonic Tubes



K-Box



Grout Coupler



Anchor Plate

Our Clients



HYDERABAD METRO RAIL LIMITED
(A Government of Telangana Enterprise)



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