

KLOVEN DRAIN[®]

Slotted Metal Drain

THECHNICAL DATA SHEET

Manufactured by

HULKO[®] Steel Pipe
Technology



01

HIGH
DURABILITY

02

STRENGTH
& RELIABILITY

03

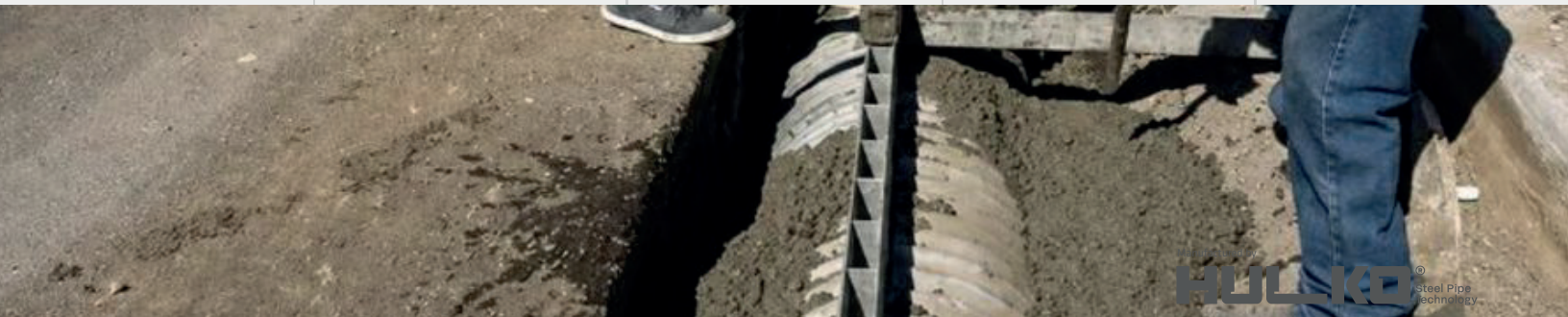
EASY
INSTALLATION

04

LOW LIFE-
CYCLE COST

05

SUSTAINABILITY
& EFFICIENCY



KLOVEN DRAIN®

Slotted Metal Drain

PRODUCT OVERVIEW

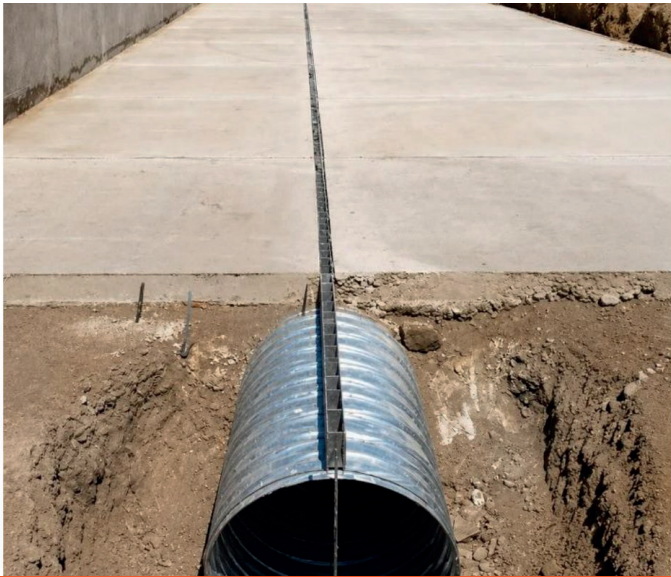
KLOVEN DRAIN® slotted drain removes surface runoff effectively and economically in curb-and-gutter applications, and intercepts sheet flow on relatively flat surfaces.

Applications include highways, parking lots, airports, athletic fields, or any other surface where removal of flowing or standing surface water is desirable.

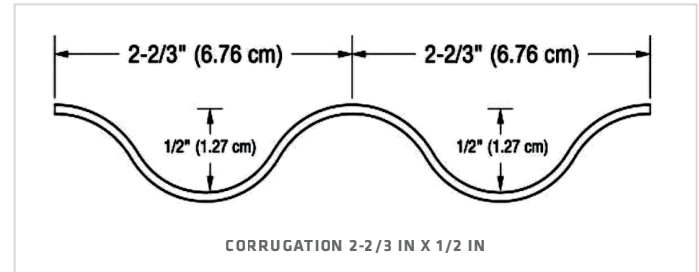
KLOVEN DRAIN® pipe is manufactured from corrugated steel meeting the applicable requirements of AASHTO M36 and ASTM A760. It is available in diameters from 12 to 36 in. (30.48 to 91.44 cm) and in 16, 14, and 12 gauge.

The open grate is installed slightly below the surface to be drained. This allows surface water to be conveyed directly into the pipe below, from where it can be routed to the corresponding stormwater collector.

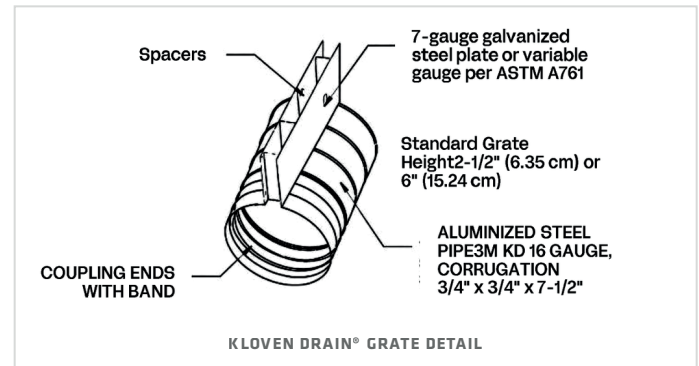
TDR Pipe slotted drain eliminates the need for complex surface grading to create drainage basins where water is directed to multiple catch basins, curbs, dikes, or other conveyance structures.



CORRUGATION PROFILE



GRATE ASSEMBLY



STANDARDS COMPLIANCE

TABLE 1 • COMPLIANCE WITH INTERNATIONAL STANDARDS

SCOPE	TYPE	ASTM	AASHTO
Coating	Galvanized 2 oz/ft ²	ASTM A929	AASHTO M218
	Aluminized	ASTM A929	AASHTO M274
	Polymerized	ASTM A742	AASHTO M245
Pipe	—	ASTM A760	AASHTO M36
Installation	—	ASTM A798	AASHTO Section 25
Design	—	ASTM A796	AASHTO Section 12
Grate plate	7-gauge galvanized steel or variable gauge	ASTM A761	—

12"-36"

DIAMETER RANGE
(30.48-91.44 CM)

16 • 14 • 12

AVAILABLE
GAUGES

2-1/2" or 6"

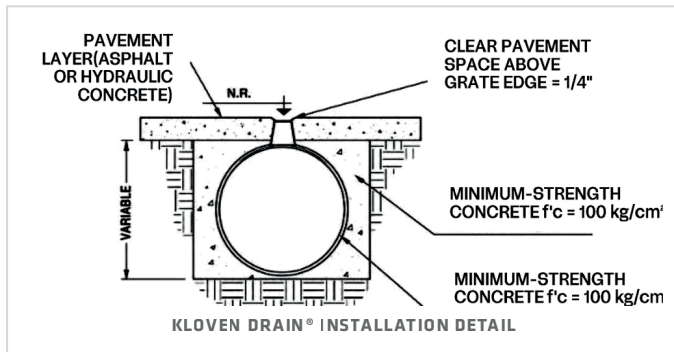
STANDARD GRATE HEIGHT
(6.35 OR 15.24 CM)

1/4"

CLEAR PAVEMENT SPACE
ABOVE GRATE EDGE

Manufactured by
HULKO® Steel Pipe Technology

INSTALLATION DETAIL



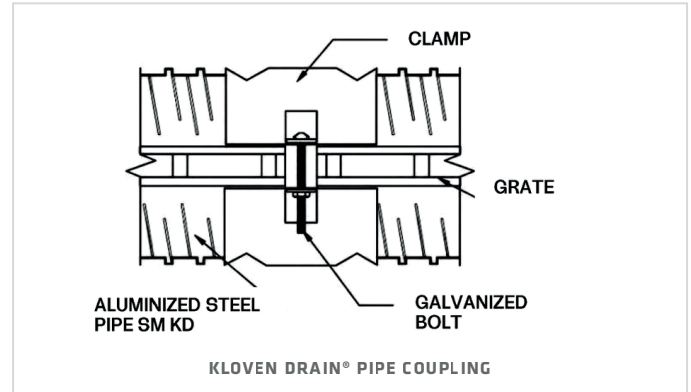
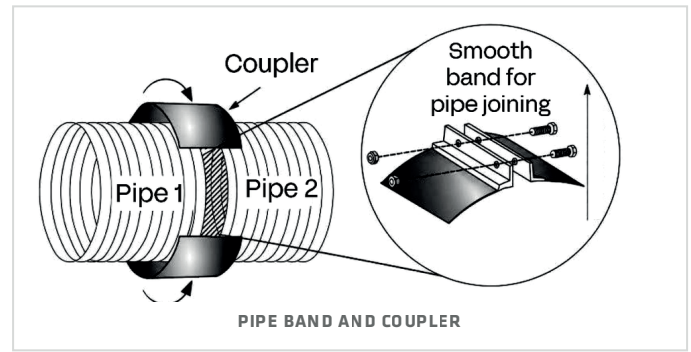
- Minimum-strength concrete $f'c = 100 \text{ kg/cm}^2$ on both sides of the pipe.
- Clear pavement space above the grate edge = 1/4 in.
- Pavement layer in asphalt or hydraulic concrete; depth variable per project.
- 16-gauge pipe, corrugation 3/4" x 3/4" x 7-1/2".

SERVICE LIFE BY COATING

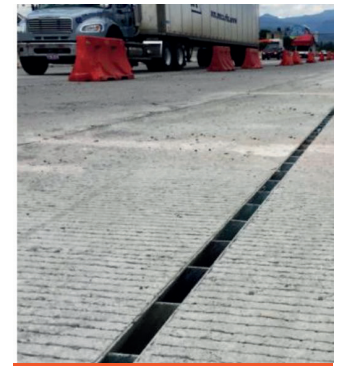
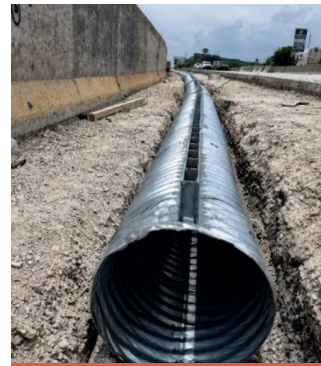
TABLE 2 - ESTIMATED SERVICE LIFE OF CORRUGATED METAL PIPE

COATING TYPE	ESTIMATED SERVICE LIFE	SOIL CONDITIONS
Galvanized 2 oz/ft²	Average 50 years or more	6.0 ≤ pH ≤ 10.0 2,000 ≤ r ≤ 10,000 ohm-cm Water hardness > 50 ppm CaCO ₃
Aluminized	Minimum 100 years	4.5 ≤ pH ≤ 5 r > 5,000 ohm-cm
	Minimum 75 years	00 ≤ pH ≤ 9.0 r > 1,500 ohm-cm
	Minimum 100 years	5.0 ≤ pH ≤ 9.0 r > 1,500 ohm-cm
Polymerized	Minimum 75 years	4.0 ≤ pH ≤ 9.0 r ≥ 750 ohm-cm
	Minimum 50 years	3.0 ≤ pH ≤ 12.0 r ≥ 250 ohm-cm

PIPE JOINING



IN THE FIELD



APPLICATIONS

HIGHWAYS

PARKING
LOTS

AIRPORTS

ATHLETIC
FIELDS

Values, tables, and standards shown are nominal and subject to change without notice. Confirm project-specific requirements – diameters, gauges, coatings, grate height, and concrete encasement – with TDR Pipe technical services before specifying.