evopipes
PART OF RADIUS GROUP

Visualization of RAIL BALTICA technical solution

DRAINAGE SYSTEMS FOR RAILWAY CONSTRUCTION

ID:BR.RW.EN-3V.23

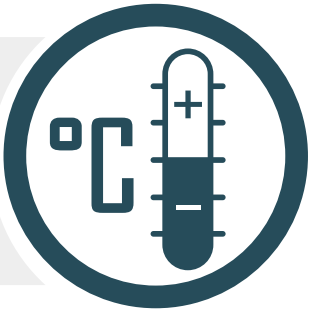
ADVANTAGES OF EVOPIPES DRAINAGE PIPES AND CHAMBERS

Mechanical

Excellent balance between product ring stiffness, ring flexibility and impact resistance.

Thermal

The products can be installed in low temperatures until -10 °C



Chemical

Products are resistant to exposure to aggressive substances present in sewage and subsoil from pH2 (acidic medium) until pH12 (alkaline medium)

Ecologic

The products are environment-friendly and recyclable after several decades in operation

Product lifetime ≥ **100 years.**

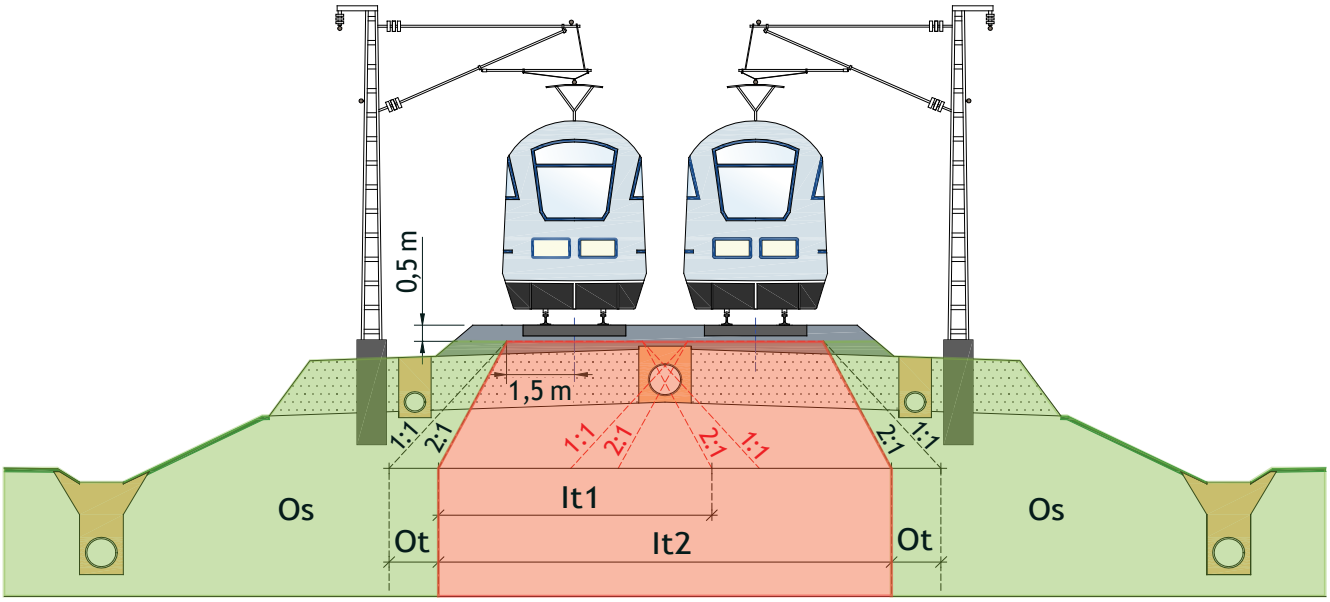
DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

According to Deutsche Bahn specification DBS 918 064

Product name	Description	Standard
MONODRAIN SN8	R3 type drainage pipe with smooth internal and external surface	• DBS 918 064 • EN 1852-1 • DIN 4262-1 • DIN 4102-1*
MONODRAIN SN16	R3 type drainage pipe with smooth internal and external surface	• DBS 918 064 • EN 1852-1 • DIN 4262-1 • DIN 4102-1*

**On request available pipe conform to DIN 4102-1 (used for tunnel construction, self-extinguishing, class B2).*

RAILWAY CONSTRUCTION



B zone	**A** zone	**B** zone
MONODRAIN SN8 type R3, DN110-400 mm	**MONODRAIN SN16** type R3, DN110-400 mm	**MONODRAIN SN8** type R3, DN110-400 mm

Os - Outside of the traffic load	**Ot** - Outer traffic load	**It1** and **It2** - Inner traffic load (in the case of one or two tracks)

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

MONODRAIN

DN/OD series R3 type drainage pipe with smooth internal and external surface. **Water inlet perforation opening area ≥100 cm²/m.** The products are supplied in straight 6m bars. Pipe is equipped with **SEAL LOCK** socket and integrated sealing ring. The supplied sealing ring grants a hermetic seal with a pressure rating of ≥0,5 bar (for coupling area). The supplied sealing rings conform to EN 681-1.

Conformity DBS 918 064, EN 1852-1, DIN 4262-1, DIN 4102-1*

Type: R3 (smooth-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN8

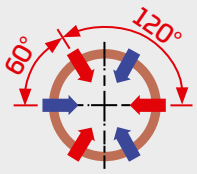
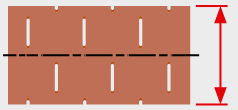
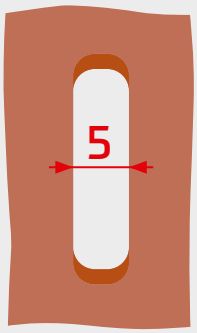
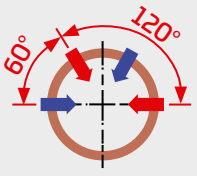
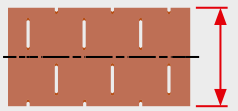
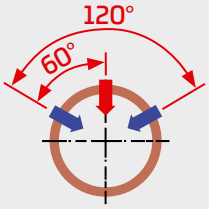
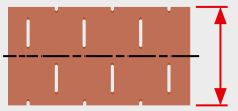
Perforation opening width: 5 mm

Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/OD: 110, 160, 200, 250 mm

View product **evopipes.com**

Ring stiffness **SN8**
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)		 DN/OD 110, 160, 200, 250	
LP (180°)		 DN/OD 110, 160, 200, 250	
MP (120°)		 DN/OD 110, 160, 200, 250	

Notes

**On request available pipe conform to DIN 4102-1 (used for tunnel construction, self-extinguishing, class B2)*

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

MONODRAIN

DN/OD series R3 type drainage pipe with smooth internal and external surface. Due to the SN16 ring stiffness class the pipe is perfectly suited for installation works in zones/places with large traffic loads. **Water inlet perforation opening area ≥100 cm²/m.** The products are supplied in straight 6m bars. Pipe is equipped with **SEAL LOCK** socket and integrated sealing ring. The supplied sealing ring grants a hermetic seal with a pressure rating of ≥0,5 bar (for coupling area). The supplied sealing rings conform to EN 681-1.

Conformity DBS 918 064, EN 1852-1, DIN 4262-1, DIN 4102-1*

Type: R3 (smooth-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN16

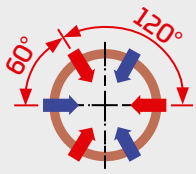
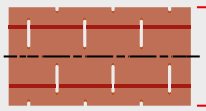
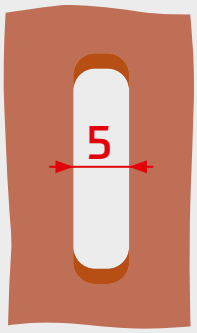
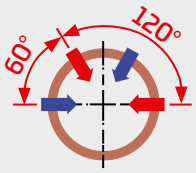
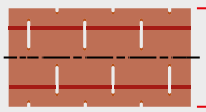
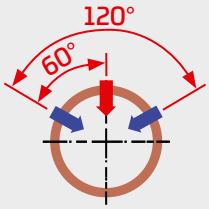
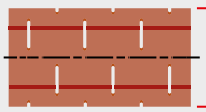
Perforation opening width: 5 mm

Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/OD: 110, 160, 200 mm

View product **evopipes.com**

Ring stiffness **SN16**
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)		 DN/OD 110, 160, 200	
LP (180°)		 DN/OD 110, 160, 200	
MP (120°)		 DN/OD 110, 160, 200	

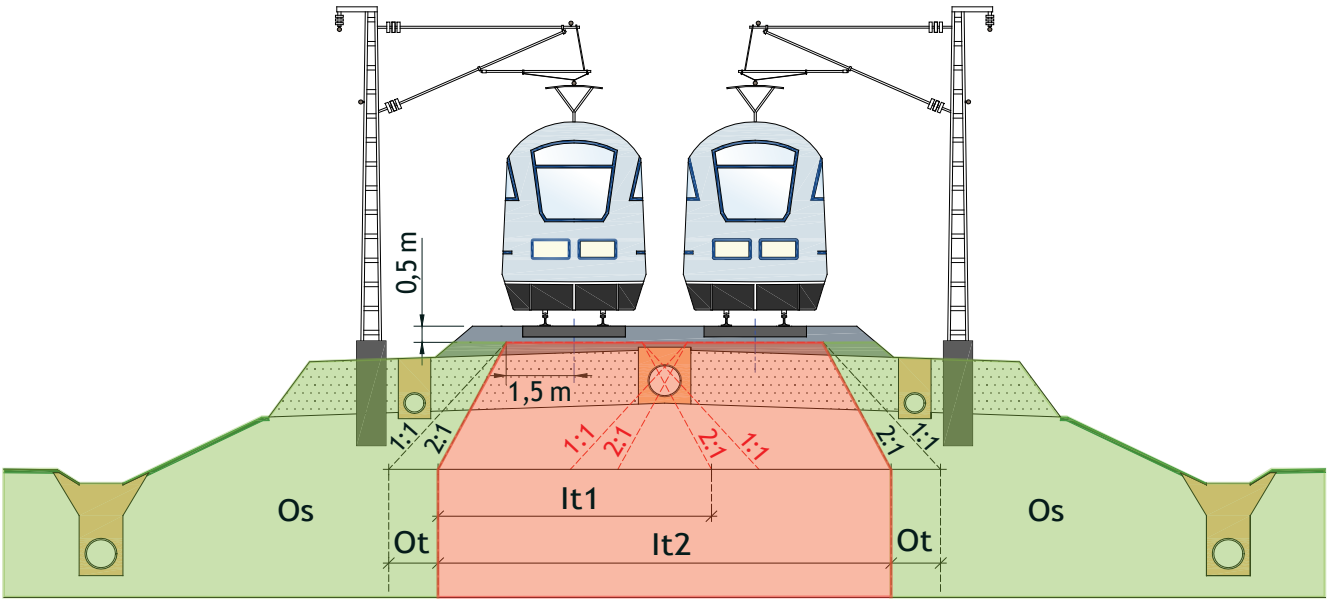
Notes

**On request available pipe conform to DIN 4102-1 (used for tunnel construction, self-extinguishing, class B2)*

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

Product name	Description	Standard
EVODRAIN HARD PP DN/OD	R2 type drainage pipe with profiled (corrugated) external and smooth internal surface, SN16	• EN 13476-3 • DIN 4262-1
EVODRAIN HARD PP DN/OD	R2 type drainage pipe with profiled (corrugated) external and smooth internal surface, SN8	• EN 13476-3 • DIN 4262-1
EVODRAIN HARD PP DN/ID	R2 type drainage pipe with profiled (corrugated) external and smooth internal surface, SN16	• EN 13476-3 • DIN 4262-1
EVODRAIN HARD PP DN/ID	R2 type drainage pipe with profiled (corrugated) external and smooth internal surface, SN8	• EN 13476-3 • DIN 4262-1

RAILWAY CONSTRUCTION



B zone	**A** zone	**B** zone
EVODRAIN HARD SN8 type R2, DN200-400 mm	**EVODRAIN HARD RF SN16** type R2, DN200-315 mm	**EVODRAIN HARD SN8** type R2, DN200-400 mm

Os - Outside of the traffic load	**Ot** - Outer traffic load	**It1** un **It2** - Inner traffic load (in the case of one or two tracks)

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

EVODRAIN HARD PP DD/OD

DN/OD series R2 type double-wall pipe with profiled (corrugated) external and smooth internal surface. Due to the SN16 ring stiffness class the pipe is perfectly suited for installation works in zones/ places with large traffic loads. **Water inlet perforation opening area ≥100 cm²/m.** The products are supplied in straight 6m bars. Each bar is equipped with welded on solid PP coupling and rubber sealing ring. The supplied sealing rings conform to EN 681-1.

Conformity DIN 4262-1, EN 13476-3

Type: R2 (double-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN16

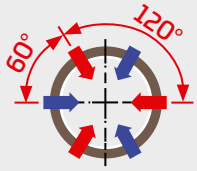
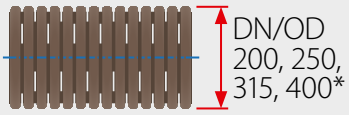
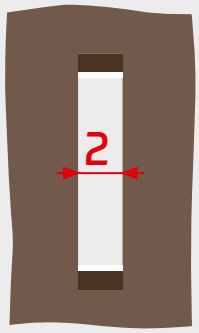
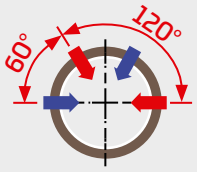
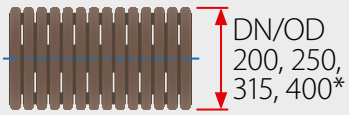
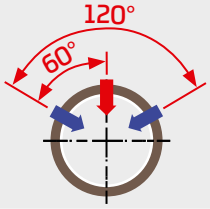
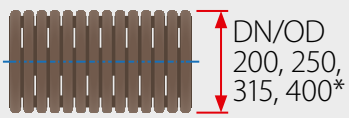
Perforation opening width: 2 mm

Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/OD: 200, 250, 315, 400 mm

View product **evopipes.com**

Ring stiffness **SN16**
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)			
LP (180°)			
MP (120°)			

Notes

** EVODRAIN HARD DN/OD 400 mm pipe is perforated in each foot of the profile, exactly as EVODRAIN HARD DN/ID 400 and 500 pipe.*

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

EVODRAIN HARD PP DN/OD

DN/OD series R2 type double-wall pipe with profiled (corrugated) external and smooth internal surface. **Water inlet perforation opening area ≥100 cm²/m.** The products are supplied in straight 6m bars. Each bar is equipped with welded on solid PP coupling and rubber sealing ring. The supplied sealing rings conform to EN 681-1.

Conformity DIN 4262-1, EN 13476-3

Type: R2 (double-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN8

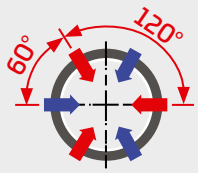
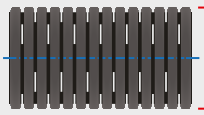
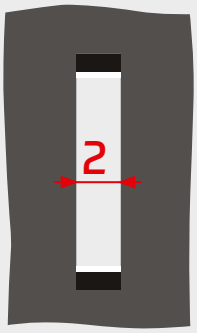
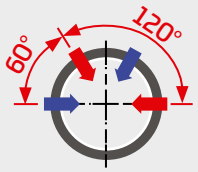
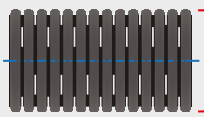
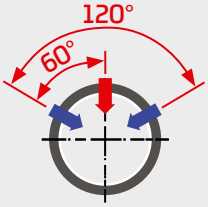
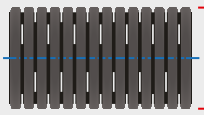
Perforation opening width: 2 mm

Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/OD: 200, 250, 315, 400 mm

View product **evopipes.com**

Ring stiffness **SN8**
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)		 DN/OD 200, 250, 315, 400*	
LP (180°)		 DN/OD 200, 250, 315, 400*	
MP (120°)		 DN/OD 200, 250, 315, 400*	

Notes

** EVODRAIN HARD DN/OD 400 mm pipe is perforated in each foot of the profile, exactly as EVODRAIN HARD DN/ID 400 and 500 pipe.*

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION

R2

EVODRAIN HARD PP DN/ID

DN/OD series R2 type double-wall pipe with profiled (corrugated) external and smooth internal surface. Water inlet perforation opening area ≥100 cm²/m. The products are supplied in straight 6m bars. Each bar is equipped with integrated expanded coupling for flawless connections. Rubber sealing ring (to be installed on the pipe at the construction site) conform to EN 681-1.

Conformity DIN 4262-1, EN 13476-3

Type: R2 (double-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN16

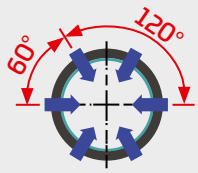
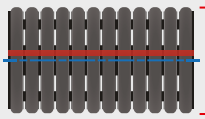
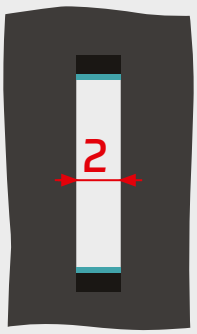
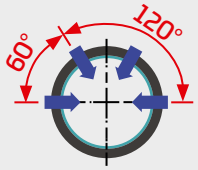
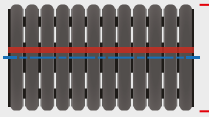
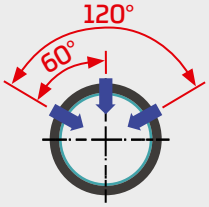
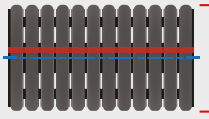
Perforation opening width: 2 mm

Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/ID: 300, 400, 500 mm

View product **evopipes.com**

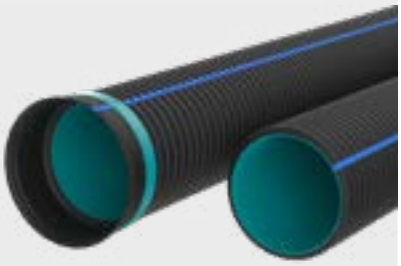
Ring stiffness **SN16**
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)		 DN/ID 300*, 400, 500	
LP (180°)		 DN/ID 300*, 400, 500	
MP (120°)		 DN/ID 300*, 400, 500	

Notes

EVODRAIN HARD DN/ID 300 mm pipe is perforated, exactly as EVODRAIN HARD DN/OD 200, 250 and 315 pipe.

DRAINAGE PIPES FOR RAILWAY CONSTRUCTION



R2

EVODRAIN HARD PP DN/ID

DN/OD series R2 type double-wall pipe with profiled (corrugated) external and smooth internal surface. Water inlet perforation opening area ≥100 cm²/m. The products are supplied in straight 6m bars. Each bar is equipped with integrated expanded coupling for flawless connections. Rubber sealing ring (to be installed on the pipe at the construction site) conform to EN 681-1.

Conformity DIN 4262-1, EN 13476-3

Type: R2 (double-wall pipes)

Material: polypropylene (PP)

Ring stiffness: SN8

Perforation opening width: 2 mm

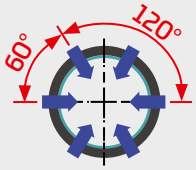
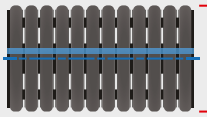
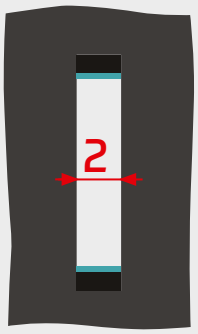
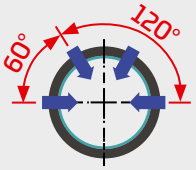
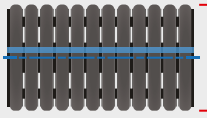
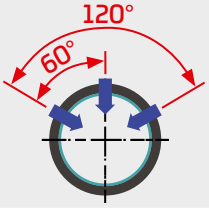
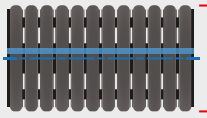
Perforation type: TP(360°), LP(180°±10°), MP(≤120°), UP

DN/ID: 300, 400, 500 mm

View product **evopipes.com**

Ring stiffness **SN8**

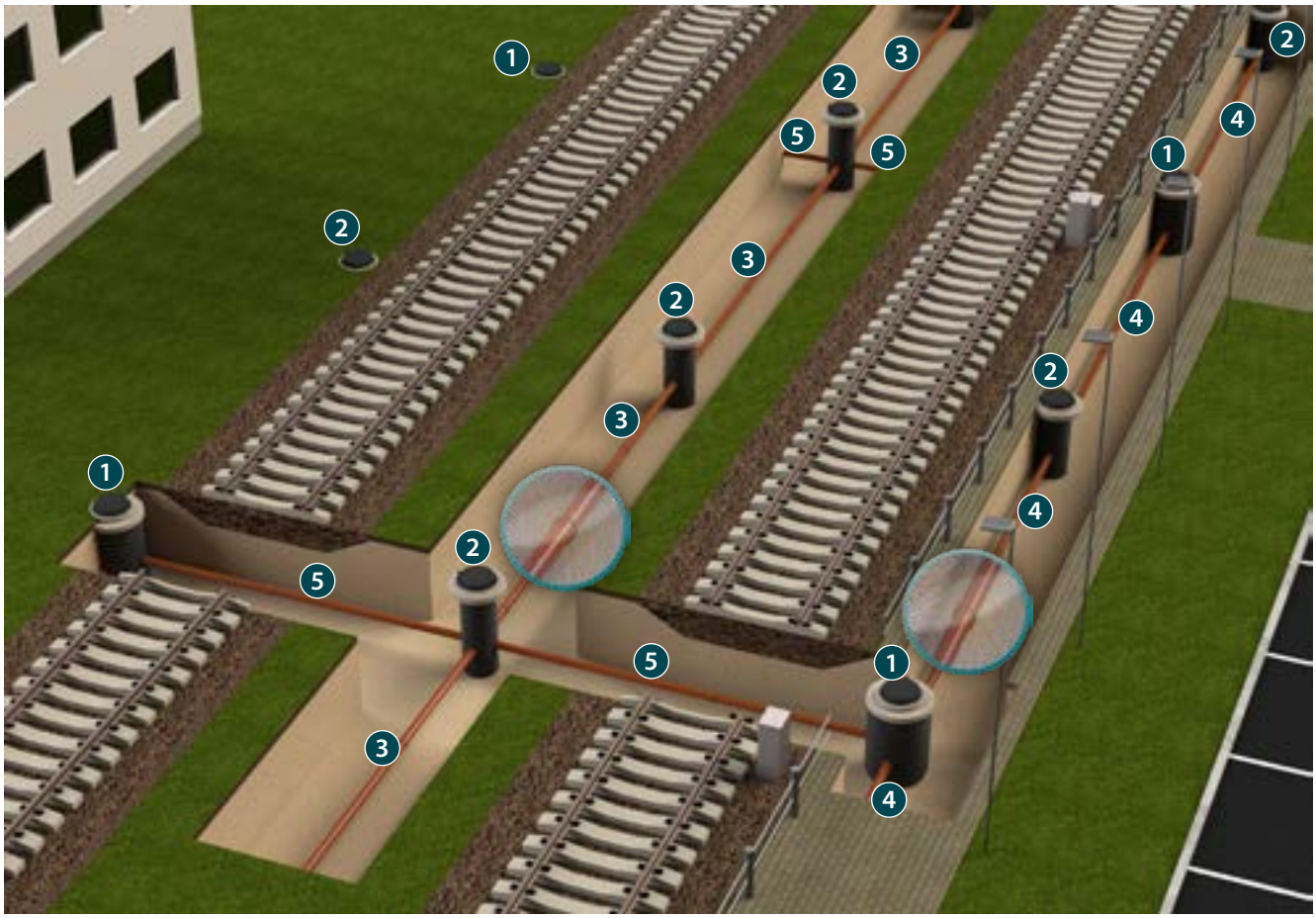
Water inlet perforation opening area **≥100 cm²/m**

Perforation type	Cross section	View form top of the pipe	Perforation opening, mm
TP (360°)		 DN/ID 300*, 400, 500	
LP (180°)		 DN/ID 300*, 400, 500	
MP (120°)		 DN/ID 300*, 400, 500	

Notes

EVODRAIN HARD DN/ID 300 mm pipe is perforated, exactly as EVODRAIN HARD DN/OD 200, 250 and 315 pipe.

DRAINAGE CHAMBERS FOR RAILWAY CONSTRUCTION



Legend

1	Drainage manhole with sediment trap CID 1000.600D
2	Drainage chamber with sediment trap CID 600D
3	Drainage pipe MONODRAIN SN16 DN/OD 110-400 mm, type R3, perforation type TP (360°)
4	Drainage pipe MONODRAIN SN8 DN/OD 110-400 mm, type R3, perforation type TP (360°)
5	Drainage pipe MONODRAIN SN16 DN/OD 110-400 mm, type R3, perforation type UP (unperforated)

DRAINAGE CHAMBERS FOR RAILWAY CONSTRUCTION

CID 400.315D

Drainage chamber with diameter of DN/OD 400 mm and sediment trap.* Double-wall PP height adjustment shaft with welded on base. Industrially welded connections. Cast iron cover, conform to EN 124-2, traffic load class D400(40t), with PP smooth-wall telescopic pipe DN 315mm, height of the telescopic pipe — 0,6m. Rubber cuff DN400/315 mm.

**standard set 0,4m with volume 38l=38dm³; on request available chamber with other height of sediment trap (or without it).*

Chamber top: EN 124-2
Telescopic pipe: EN 13476-2
Shaft: EN 13476-3, EN 14802
Connections:
DN/OD
110, 160, 200, 250 mm
DN/ID
300 mm

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CID 600D

Drainage chamber with diameter of DN/ID 600 mm and sediment trap.* Double-wall PP height adjustment shaft with welded on base. Industrially welded connections. Reinforced concrete support ring, h=160mm. Reinforced concrete height adjustment ring, h=80mm (adjustment height 60mm, installed if necessary, no more than 4 pieces can be stacked). Stationary type cast iron cover, conform to EN 124-2, traffic load class D400(40t), opening DN/ID>600 mm.

**standard set 0,4m with volume 145l=145dm³; on request available manhole with other height of sediment trap (or without it).*

Chamber top: EN 124-2
Reinforced concrete support rings: EN 206, EN 1917, EN 1917/AC
Shaft: EN 13476-3, EN 14802
Connections:
DN/OD
110, 160, 200, 250, 315 mm
DN/ID
300, 400 mm

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CID 1000.600D

Drainage manhole with diameter of DN/ID 1000 mm and sediment trap.* Double-wall PP height adjustment shaft with welded on base. Industrially welded connections. Reinforced concrete support ring, h=160mm. Reinforced concrete height adjustment ring, h=80mm (adjustment height 60mm, installed if necessary, no more than 4 pieces can be stacked). Stationary type cast iron cover, conform to EN 124-2, traffic load class D400(40t), opening DN/ID>600 mm.

**standard set 0,4m with volume 309l=309dm³; on request available manhole with other height of sediment trap (or without it).*

Manhole top: EN 124-2
Reinforced concrete support rings: EN 206, EN 1917, EN 1917/AC
Shaft: EN 13476-3, EN 14802
Connections:
DN/OD
110, 160, 200, 250, 315, 400 mm DN/ID
300, 400, 500 mm

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EVODRAIN

Drainage systems for railway construction

PRODUCTION AND OFFICE

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