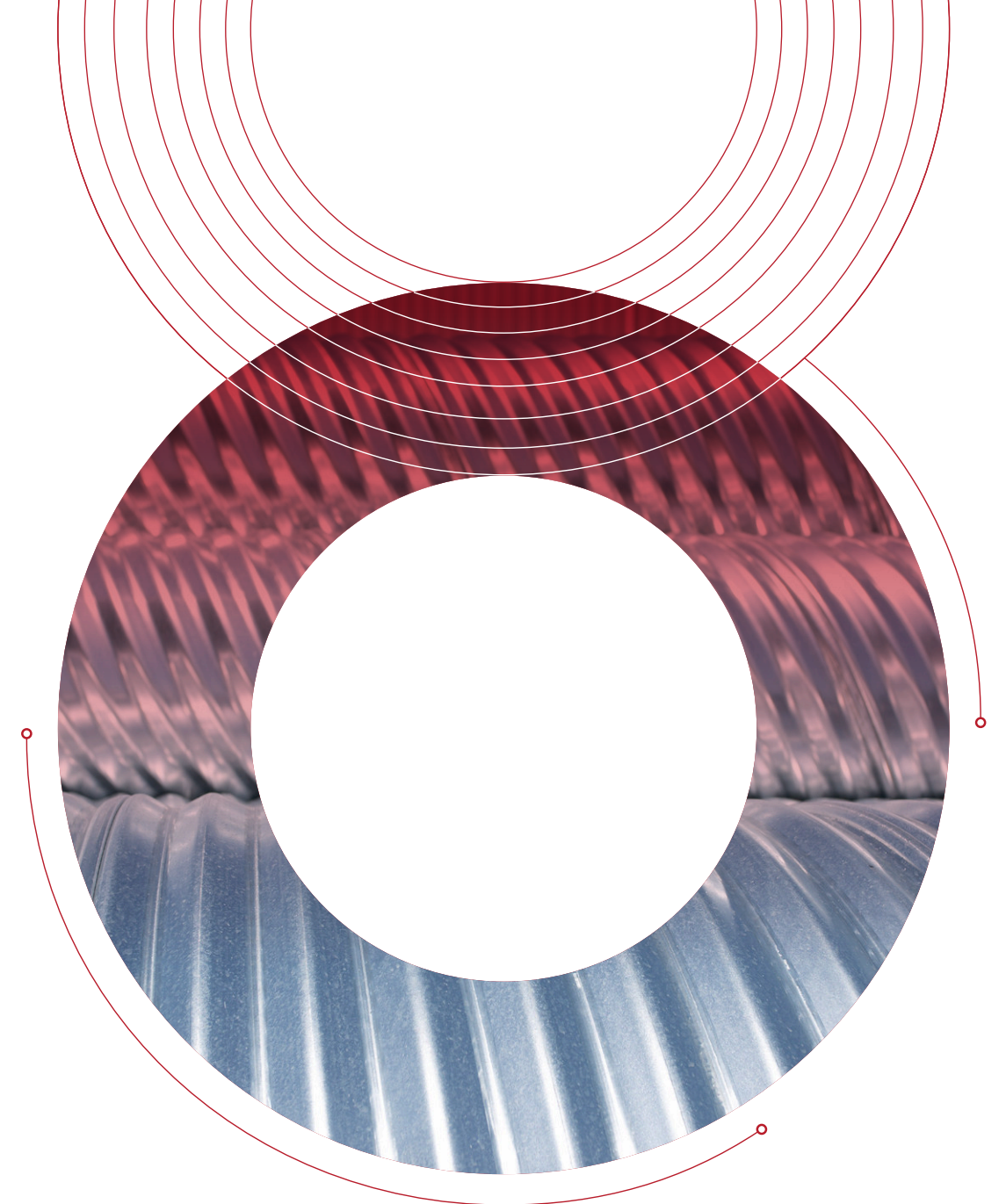




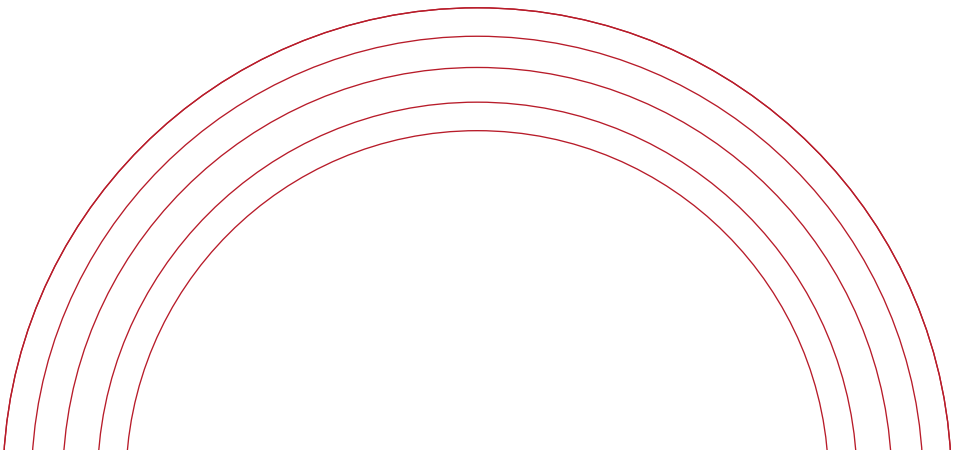
REXSTEEL

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REXSTEEL



Protecting the environment, contributing to society, creating value

REXSTEEL Co., Ltd.

Message from the President



We will be the partner that exceeds your expectations and requirements.

Rexsteel co.,ltd manufactures a full range of corrugated steel pipe (CSP) products for stormwater and wastewater drainage from hot-dip galvanized steel sheet supplied by POSCO, delivering high-quality pipe best suited to the service conditions of each site. Corrugated steel pipe originated in the United States and was subsequently introduced to Korea as a dedicated drainage conduit for stormwater and sewage. With over 100 years of service worldwide, CSP has proven its outstanding external-load capacity, watertightness, durability, economy and ease of installation, and demand continues to grow steadily.

While retaining the proven advantages of conventional CSP, we actively develop and adopt new technologies, offering a diverse product line that responds to emerging challenges such as climate change and environmental pollution — including PE-coated CSP, smooth-interior coated CSP and NPE-coated CSP (Excellent Product Certification No. 2021191).

Through continuous R&D we will supply the products that best meet our customers' needs, and through rigorous quality management and after-sales service we will exceed their expectations. We pledge to remain a company that protects the environment, contributes to society and continually creates core value.

HISTORY

- 2025. 12 Certified as a Family-Friendly Company
- 2025. 12 New Product Conformity Certification (Industrial Convergence Act) (high-adhesion polymer-coated CSP and couplings)
- 2025. 08 Environmental Product Declaration (EPD) certification
- 2024. 12 Established Daehan Steel Pipe Corporate R&D Institute
- 2024. 12 Certified as a Root-Industry (Ppuri) Company
- 2024. 12 Designated Materials, Parts & Equipment Specialist Company
- 2024. 05 ISO 45001 certification
- 2023. 07 Green Technology Certification
- 2022. 06 LH New Technology certification (Korea Land & Housing Corp.)
- 2022. 01 Designated Excellent Procurement Product (high-adhesion coated CSP)
- 2021. 12 New Excellent Product (NEP) certification (coated CSP with high-adhesion film for easy repair of coating damage)
- 2021. 08 Performance Certification
- 2021. 07 ISO 9001:2015 Quality Management certification
- 2020. 09 Established subsidiary Rexsteel co.,ltd (Haman / corrugated steel plate)
- 2020. 08 Procurement registration of metal valve chambers
- 2019. 12 Excellent Invention certification
- 2019. 07 Commenced production of smooth-interior (lined) pipe
- 2019. 05 Patent registration No. 10-1984871
- 2012. 04 Quality Management System certification (ISO 9001)
- 2011. 03 Group Standard mark certification (polymer-coated CSP)
- 2007. 12 Established subsidiary Shinhan Steel Pipe Co., Ltd. (Seongju / CSP)
- 2000. 03 KS certification (KS D 3590 Corrugated steel pipes and sections) GQ (Good Quality) mark certification for corrugated steel pipe
- 1999. 12 Commenced production of corrugated steel pipe
- 1999. 06 Company founded (present site, Haman-gun, Gyeongnam)

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Corrugated Steel Pipe — Overview

Corrugated steel pipe (CSP) is made by roll-forming hot-dip galvanized steel sheet into a corrugated profile for stiffness and helically lock-seaming it into a pipe. Structurally safe and durable, corrosion-resistant, long-lived, economical and easy to install, it is an ideal drainage structure. Invented in 1896 by Stanley Simpson, a municipal civil engineer in the USA, CSP is used extensively across North America, Europe and Korea — from drainage conduits to underpasses. It serves mainly as drainage pipe on civil works and as culverts and underpasses beneath roads and railways, and is especially effective on mountainous sites where transport is difficult.

Product Features

High strength

01

CSP is a flexible conduit whose load-carrying capacity is developed by the corrugations pressed into the sheet. Load and soil reaction are distributed uniformly around the pipe periphery, giving very high load capacity. For the same diameter, wall thickness is only about 1/20 to 1/40 that of concrete pipe and weight is reduced to about 1/5 to 1/10.

Easy handling

02

CSP is lightweight and can be handled and stored manually even on confined sites, without lifting equipment.

Simple installation

03

Being light and flexible, CSP requires far simpler bedding than rigid pipe. It can be assembled by non-specialist labour and installed in a short time with minimal manpower.

Long service life

04

High-quality galvanizing gives CSP a long service life. Outside reclaimed coastal land, the expected life against soil-side corrosion (1.62 mm wall) is estimated at 50 to 100 years, and the expected life against water-side corrosion (1.62 mm wall) is 57 to 87 years even under highly corrosive soft-water conditions. Where corrosion is severe (seawater, industrial effluent, sewage, etc.), PE-coated CSP with inner and outer coating provides enhanced corrosion resistance.

Outstanding economy

05

Standard pipe lengths of 6 m and simple coupling-band joints greatly shorten the construction period. Low weight reduces transport volume, and bedding, installation and on-site handling are all simple; for a Ø800 pipeline the installed cost is approximately 72 % that of concrete pipe. Further savings are achieved on sites with poor access and on soft ground, making CSP more economical than any other drainage pipe.

Applications



CSP is used primarily as drainage pipe on all types of civil engineering projects and as culverts and underpasses beneath roads and railways. It is particularly effective on mountainous sites where transport is difficult.

- Drainage** Drainage for residential and industrial land development; longitudinal and cross drains for roads and railways; factory drainage channels; golf-course drainage; temporary waterways; irrigation pipelines
- Underpass** Pedestrian and vehicular underpasses beneath roads and railways; small tunnels
- Structures** Underground utility tunnels
- Other** Catch-basin risers, retaining walls, lightweight fill, concrete formwork, small-well casings, fire-resistant tunnel drainage pipe, etc.

Material

Structural-grade carbon steel to KS D 3506 (supplied by POSCO) is hot-dip galvanized and roll-formed into corrugated steel pipe in accordance with KS D 3590.

Category	Designation	Mechanical properties	
		Yield strength	Tensile strength
Corrugated steel pipe	SGHC	205(N/mm ²) min.	270(N/mm ²) min.

Zinc coating mass of the hot-dip galvanized steel sheet:

Category	Coating designation	Minimum coating mass (both sides)
Corrugated steel pipe	Z600, AZ200	600g/m ² , 200g/m ²

Types

Types and designations of corrugated steel pipe specified in KS D 3590 are shown below.

Category		Designation	Nom. dia. (mm)	Thickness (mm)	Joint type	Remarks
Section	Corrugation					
Circular	Type 0S	SCP ORS-B SCP ORS-B IS	150 - 650	1.6, 2.0, 2.7, 3.2	Helically corrugated pipe is joined with a coupling band or a helical flange	Circular section is the standard type; its structural behaviour is well defined, the shape is stable, and it is easier to assemble than other shapes.
	Type 1S	SCP 1RS SCP 1RS IS SCP 1RD IS	300 - 1,800			
	Type 3S	SCP 3RS SCP 3RS IS SCP 3RD IS	900 - 2,400			

○ ORS Type (for housing projects and land development)

○ ORS Corrugated Pipe

Small-diameter drainage pipe for housing estates, land development and general civil works; adaptable to a wide range of uses.

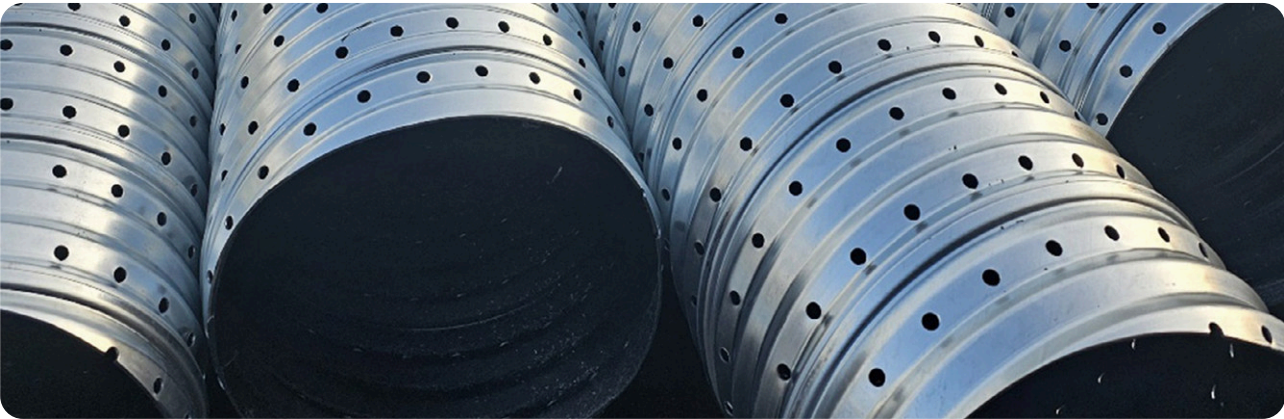
○ Dimensions and tolerances

Dia.	Thickness	Pitch P	Depth H
Ø150 ~ Ø250	1.6	38±2.0	6.5±2.0

Unit: mm

○ ORS Perforated Corrugated Pipe

Subsurface drainage pipe that stabilizes the ground by lowering the groundwater table. Widely used for golf courses, tennis courts, sports fields, retaining walls, marshland, airports, metro works, underground car parks, tunnels, etc.

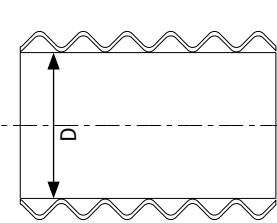


Dia.	Thickness	Open area	Perforation dia.
Ø150 ~ Ø600	1.6	2.3(230 cm ² / m ²) min.	Ø4.8 ~ 9.5

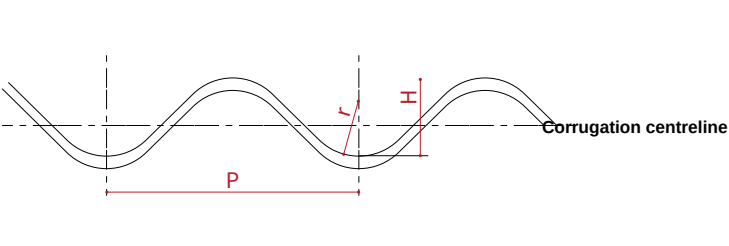
Unit: mm

○ Types 1S and 3S

○ Shape



○ Corrugation profile and dimensions



Designation	Dimension		
	Pitch P	Depth H	Corrugation radius R
SCP 1RS, SCP 1RS IS, SCP 1RD IS	68.0	13.0	17.5
SCP 3RS, SCP 3RS IS, SCP 3RD IS	76.2	25.4	17.5

Unit: mm

○ Section Dimensions

Designation	Nominal dia. D	Sheet thickness (mm)				Length L
		1.6	2.0	2.7	3.2	
SCP 1RS SCP 1RS IS SCP 1RD IS	300	○	○	-	-	Specified length 4,000 – 10,000
	350	○	○	-	-	
	400	○	○	-	-	
	450	○	○	-	-	
	500	○	○	-	-	
	600	○	○	○	-	
	700	○	○	○	-	
	800	○	○	○	-	
	900	○	○	○	○	
	1,000	○	○	○	○	
	1,100	○	○	○	○	
	1,200	-	○	○	○	
	1,350	-	-	○	○	
	1,500	-	-	○	○	
	1,650	-	-	○	○	
SCP 3RS SCP 3RS IS SCP 3RD IS	1,800	-	-	○	○	
	2,000	-	-	○	○	
	900	○	○	○	-	
	1,000	○	○	○	○	
	1,100	○	○	○	○	
	1,200	○	○	○	○	
	1,350	-	○	○	○	
	1,500	-	○	○	○	
	1,650	-	○	○	○	
	1,800	-	○	○	○	
	2,000	-	-	○	○	
	2,200	-	-	○	○	
	2,400	-	-	○	○	
	2,600	-	-	-	○	
	2,700	-	-	-	○	
	2,800	-	-	-	○	
	2,900	-	-	-	○	
	3,000	-	-	-	○	

Note 1: Sheet thickness is the base-metal thickness before galvanizing.
Note 2: Figures are for dimensional reference only.

Joint Connection Methods

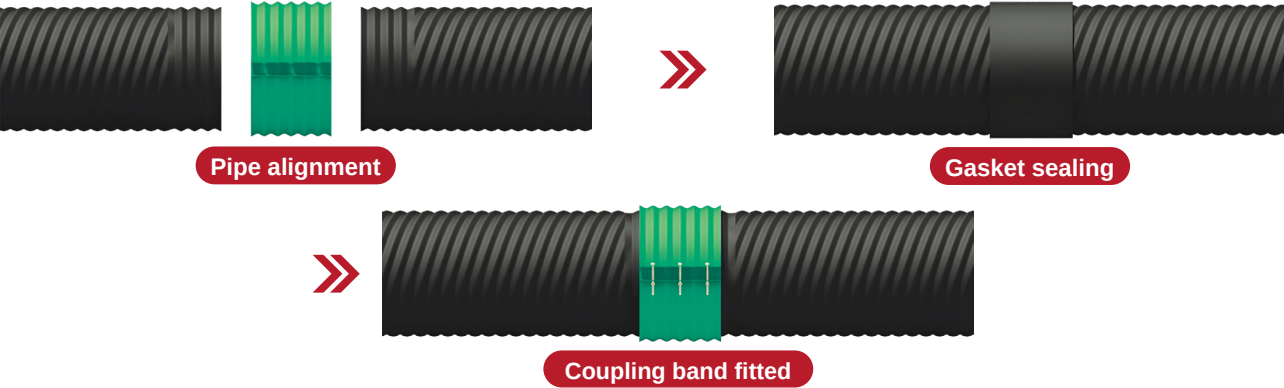
○ Sleeve Coupling

Joint for small-diameter CSP such as ORS and ORS perforated pipe. A sleeve is inserted into the bore of the plain (non-re-corrugated) pipe ends and the joint is finished by wrapping the outside with heat-shrink tape.



○ Coupling Band

The most widely used joint. A watertight gasket is fitted around the re-corrugated pipe ends, and the coupling band is placed over the joint and tightened with bolts.



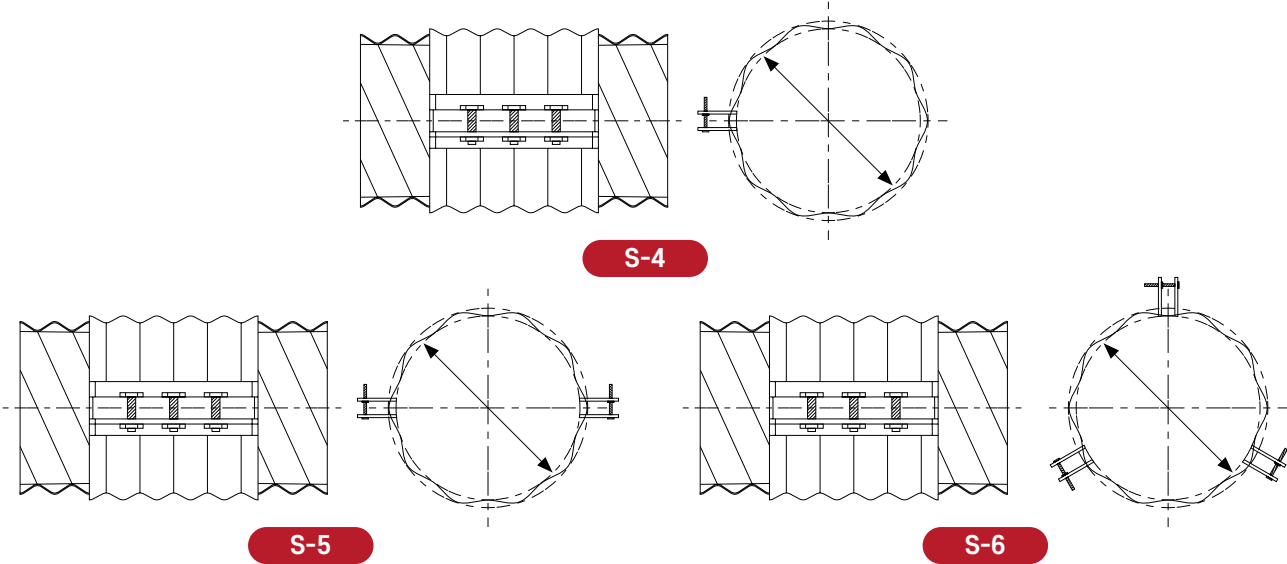
○ Helical Flange (Flanged Joint)

A flanged joint used mainly in special environments requiring a high degree of watertightness. A flange is bolted around the outside of the plain (non-re-corrugated) pipe end, and a watertight ring is seated in the bore and clamped tight.



○ Coupling Band

○ Shape



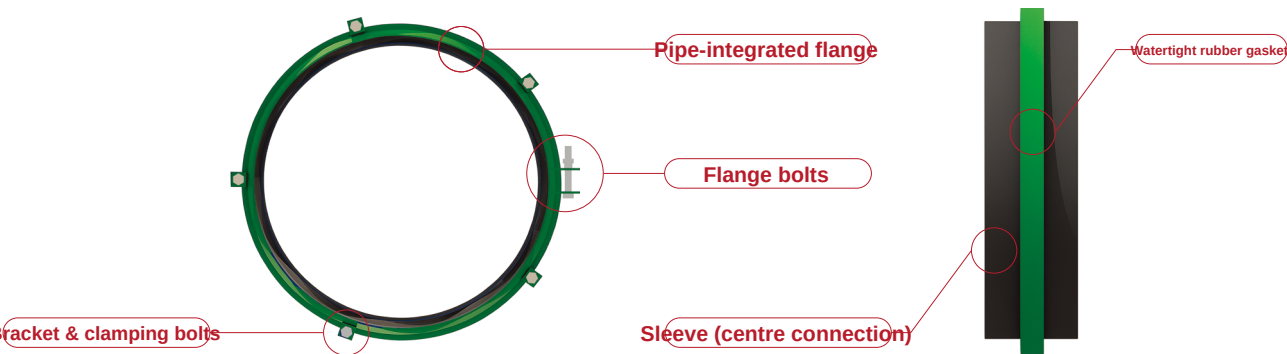
○ Applicable specifications

Band	Item	Nominal pipe diameter D				
		300 - 500	600 - 800	900 - 1500	1650	≥ 1800
S-4	Thickness	1.6		-		
	Width	270	270 or 410	-		
S-5	Thickness	1.6		1.6		
	Width	270	270 or 410	410		
S-6	Thickness	-				1.6
	Width	-				410

Unit: mm
Note 1: Figures are for dimensional reference only.
Note 2: For re-corrugated pipe ends, coupling-band thickness and width follow S-4, S-5 and S-6.

○ Helical Flange

○ Shape

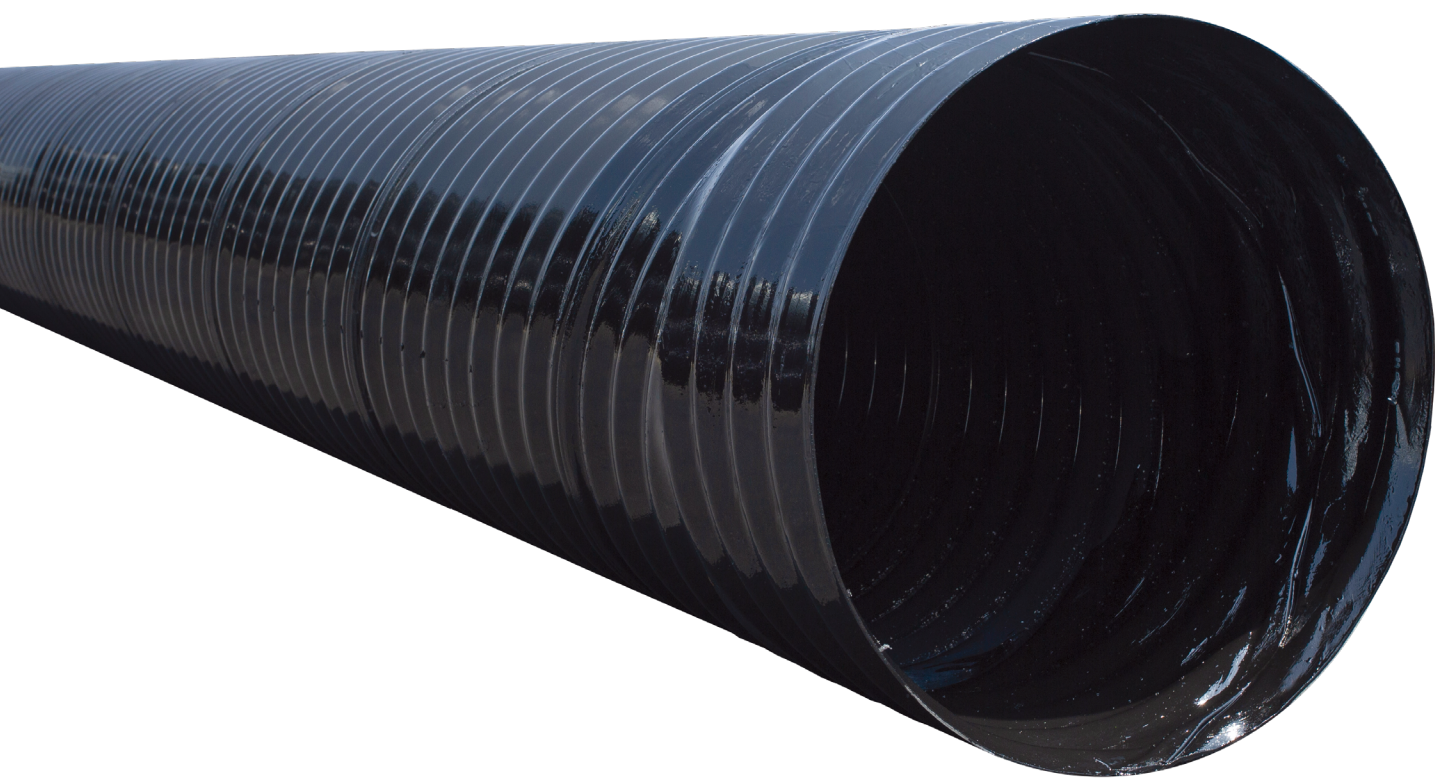


○ Applicable specifications

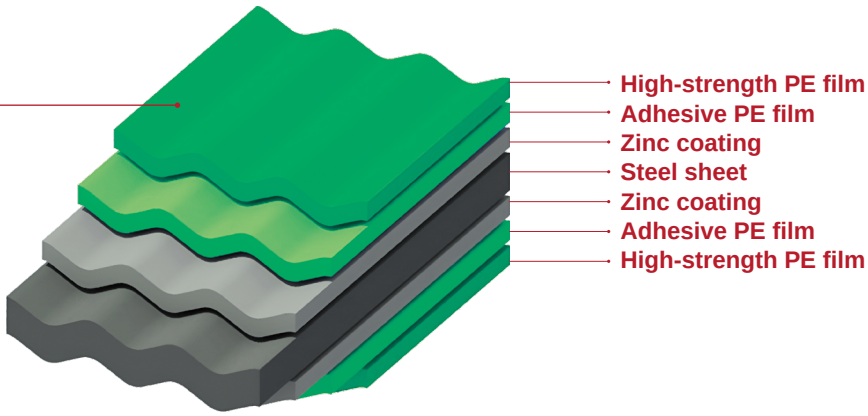
Joint type	Pipe type	Applicable nominal diameter
Helical Flange	1S	D 300 ~ D 2,000
	3S	D 900 ~ D 3,000

PE-Coated Corrugated Steel Pipe — Overview

Material spec. ○ KS D 3590



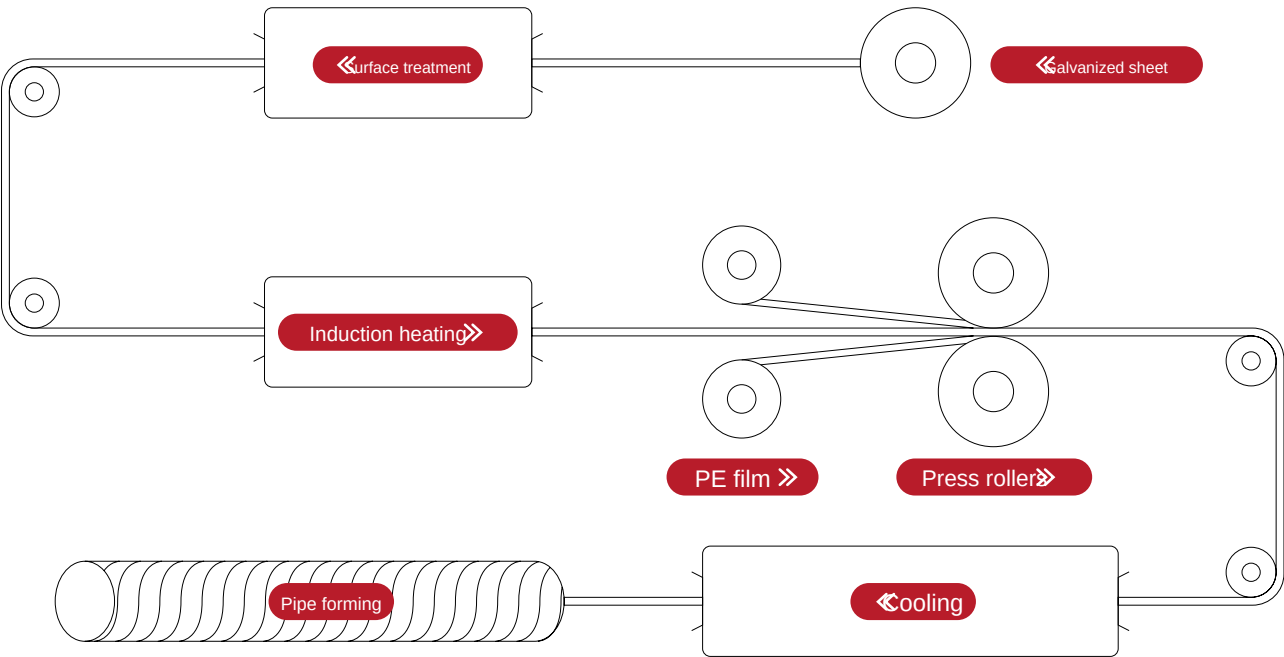
○ Coating Structure



○ Product Features

- **Long service life**
High-strength polyethylene bonded to galvanized steel gives excellent chemical resistance in any environment.
- **Very high external-load capacity**
A flexible conduit: the corrugations provide load capacity, and load and soil reaction spread uniformly around the pipe.
- **Simple installation, low construction cost**
 - Lightweight (approx. 1/10 of concrete pipe), easy to handle and lay
 - Fewer joints and simple jointing shorten the construction period
 - Excavation volume is minimized — highly economical
 - Backfilling can proceed immediately, reducing disruption to traffic and access
- **Excellent watertightness**
Simple jointing with a very high degree of watertightness.

○ Manufacturing Process



○ Applications



- Drainage** Drainage for residential and industrial land development; longitudinal and cross drains for roads and railways; factory drainage channels; forest-road drainage; irrigation pipelines; interceptor sewers for wastewater treatment plants; drainage on coastal and tidal-flat reclamation sites; drainage for leisure and sports facilities
- Structures** Alternative to concrete box culverts; underground utility tunnels; light structures
- Other** Catch-basin risers, lightweight fill (embankment load reduction), concrete formwork, etc.

PE-Coated Smooth-Interior Corrugated Steel Pipe

Watertightness

TEST RESULT OF WATER TIGHTNESS



○ Watertightness test results — pipe body

Test	Nominal dia.	Result
Joint watertightness test	D600	No leakage
	D900	
	D1,000	

Hydrostatic test condition: 1 atm held for 0.5 hour

Hydraulic Capacity (Manning's n)

TEST RESULT OF DISCHARGE CAPABILITY

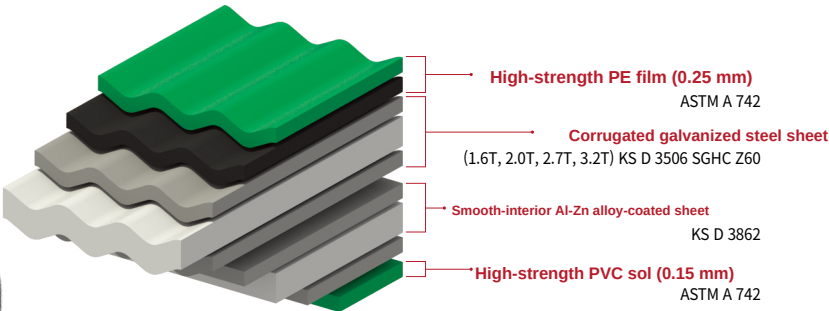
○ Hydraulic capacity comparison (Manning's n)

Pipe type	Hydraulic Capacity (Manning's n)
Concrete pipe	0.015 - 0.017
Corrugated metal pipe	0.018 - 0.022
PE-coated smooth-interior CSP	0.009 - 0.011

Hydraulic capacity (roughness coefficient): D300, D450, D600 tested by Hanyang University;
D300, D800, D1500 tested by Korea Conformity Laboratories (KCL)

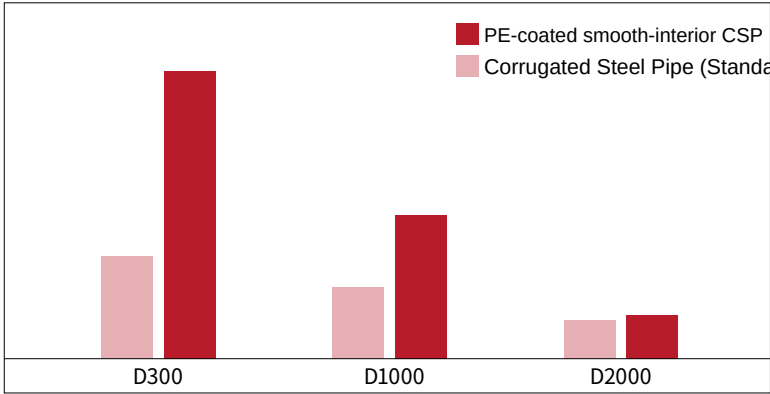
Double-Layer Coated Steel Structure

DOUBLE LAYERS STEEL PLATE & COVERING FILM



External-Load Capacity Comparison

EXTERNAL PRESSURE STRENGTH



Average external-load capacity increased by approx. 50 % (KCL test results)



High strength

A flexible conduit whose load capacity is developed by the corrugations pressed into the sheet — exceptional resistance to external load.



Easy handling

CSP is lightweight, so handling and storage on site are simple.



Simple installation

Light and flexible; bedding is simpler than for rigid pipe, and even non-specialist crews can assemble it easily.



Long service life

High-quality galvanizing plus polyethylene coating give outstanding corrosion and abrasion resistance; a long service life (min. 50 years) can be expected under any conditions.



Outstanding economy

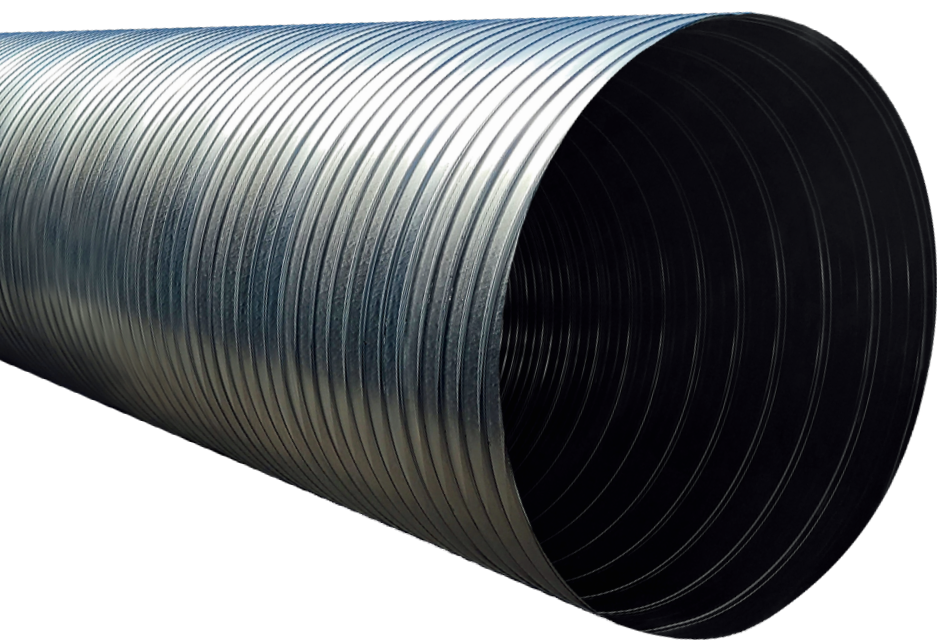
Single pipe lengths up to 8 m greatly shorten the construction period; easy to install on soft ground and sites with poor access — more economical than any other drainage pipe.



Hydraulic capacity (roughness n)

The smooth interior overcomes the main drawback of conventional CSP — lower hydraulic capacity. The flat bore does not trap debris or sediment, giving excellent flow capacity.

Drawings & Specifications



○ Sheet thickness — smooth-interior CSP

Sheet thickness			
Types	1S	3S	Liner
Dimension	1.6 - 3.2	2.0 - 3.2	≥ 0.4

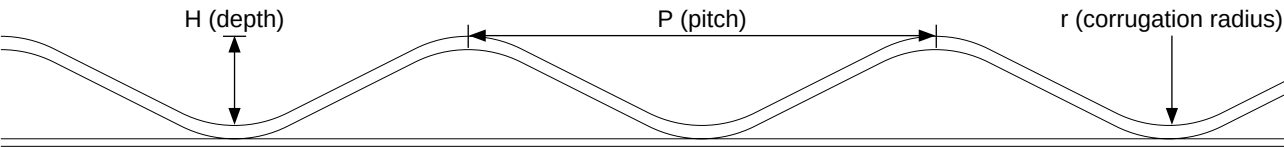
Unit: mm

○ Types of smooth-interior CSP

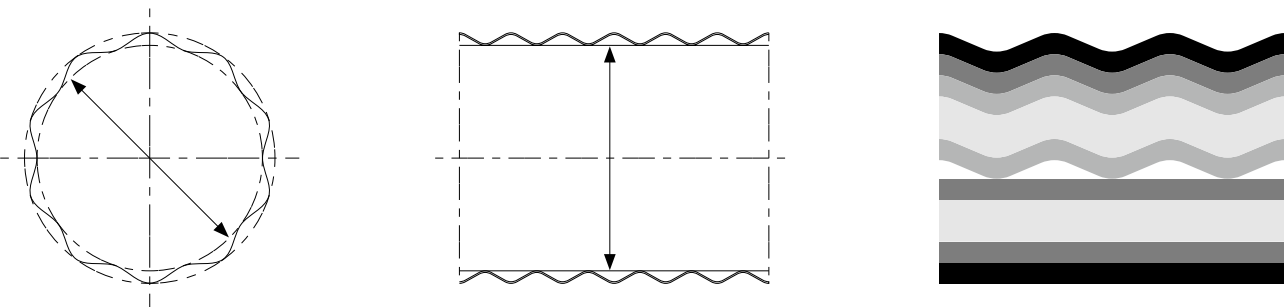
Types of smooth-interior CSP		
Types	1S	3S
Nominal dia.	D300 – D2,000	D900 – D3,000

Unit: mm

○ Cross-Section of Smooth-Interior CSP



○ Corrugation Profile of Smooth-Interior CSP



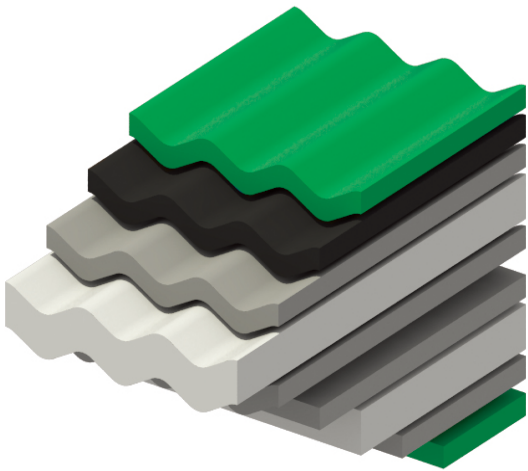
○ Product types and designations

Type	Dimension	
	Pitch	Depth
1RD IS (PS, PD)	68.0	13.0
3RD IS (PS, PD)	76.2	25.4

Unit: mm

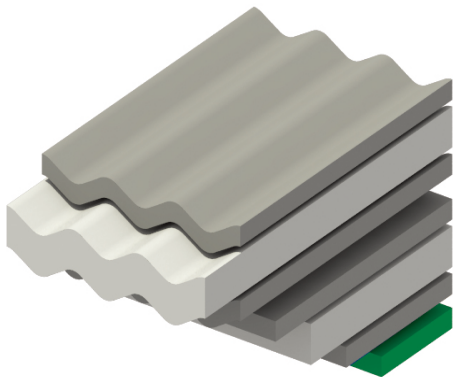
○ PE-Coated Smooth-Interior Corrugated Steel Pipe

○ PE-coated smooth-interior CSP (both-sides coated type)

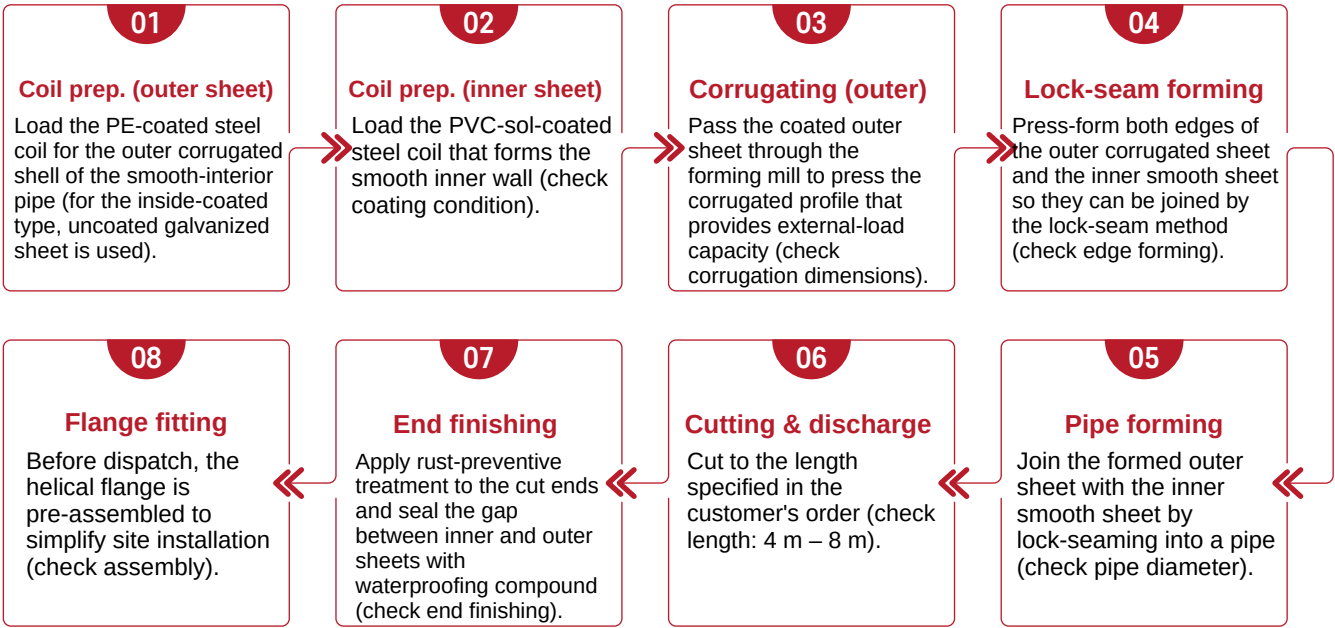


PE film (surface layer)
PE film (adhesive layer)
Hot-dip zinc coating
Steel sheet
Hot-dip zinc coating
Al-Zn alloy coating
Steel sheet
Al-Zn alloy coating
PVC-sol coating

○ PE-coated smooth-interior CSP (inside-coated type)



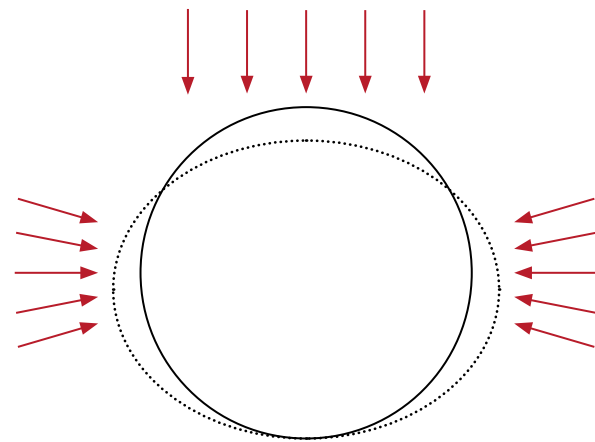
Hot-dip zinc coating
Steel sheet
Hot-dip zinc coating
Al-Zn alloy coating
Steel sheet
Al-Zn alloy coating
PVC-sol coating



Installation of Corrugated Steel Pipe

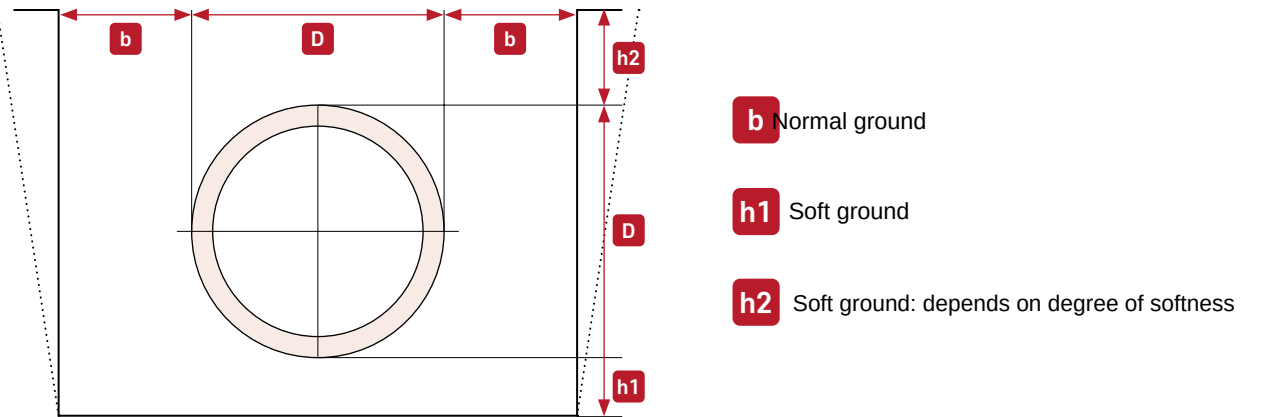
General

Because CSP is superior to other structures in economy and constructability, quality control during installation is of paramount importance. Unlike other structures, a buried CSP structure requires thorough quality-control preparation and verification at every stage of construction. The load-support mechanism of CSP is shown in the figure: when the pipe deflects under the vertical load at the crown, passive earth pressure corresponding to that displacement develops at the sides and supports the structure. The selection of backfill material around the structure and proper compaction — particularly in the haunch zone — are therefore critical.



Trench Excavation

Trench excavation shall comply with the excavation provisions of the Standard Specification for Road Works. When installing CSP in a trench cut in natural ground or well-compacted fill, the ideal method is to keep the trench as narrow as practicable with vertical (plumb) trench walls.



Trench width by pipe diameter

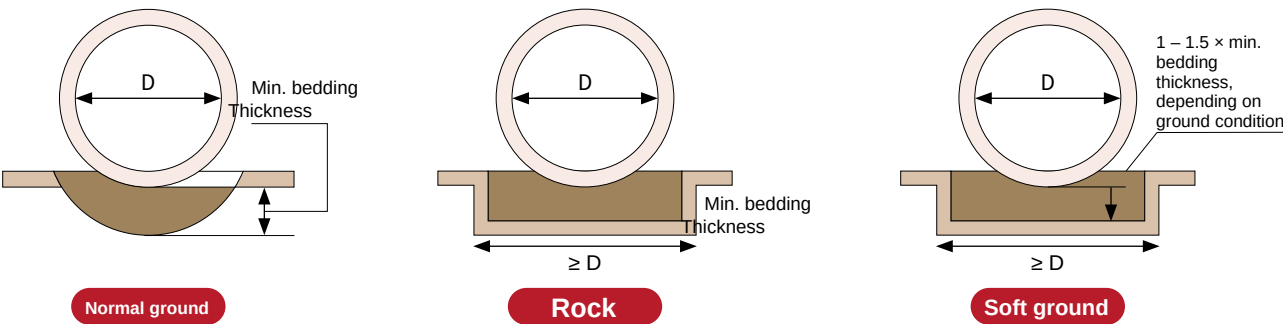
Pipe dia. (mm)	300	350	400	450	500	600	700	800
Trench width (mm)	700	800	900	1,000	1,100	1,200	1,400	1,600

Pipe dia. (mm)	900	1,000	1,100	1,200	1,300	1,400	1,500	-
Trench width (mm)	1,700	1,800	2,000	2,100	2,200	2,400	2,500	-

Bedding / Foundation

CSP is a flexible pipe and therefore requires a foundation that distributes the load uniformly. The bedding must not be constructed of concrete; wherever possible, good-quality bedding material (sand or sandy soil) shall be placed and uniformly compacted according to the ground conditions, as shown below.

Bedding standards



Minimum bedding thickness and width

Foundation soil	Minimum bedding thickness			Bedding width
	≤ 900 mm	900 - 2,000mm	≥ 2,000 mm	
Normal ground	200mm	300mm	0.2D	D
Rock	200mm Note: where fill height exceeds 5,000 mm, add 40 mm for every additional 1,000 mm			D
Soft ground	500mm	0.4D or 500 mm	0.3D (max. 1,000 mm)	2D ~ 3D

Selection of backfill material

Clay / Loam	Silt			Sand			Gravel	Cobbles
	Fine	Med.	Coarse	Fine	Med.	Coarse		
0.002	0.006	0.02	0.06	0.2	0.6	2.0	-	-

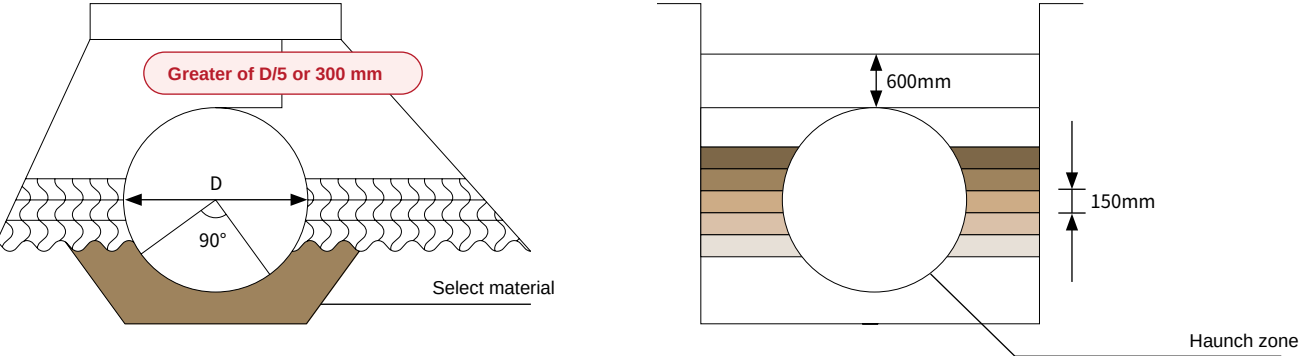
Installation



Pipe of the size shown on the design drawings shall be used and laid to the gradient specified in the drawings or directed by the supervising engineer. Where pipe is installed within an embankment and significant settlement is anticipated, the estimated settlement shall be added to the installation level in advance, as specified in the drawings or directed by the supervising engineer.

○ Fill (Cover)

The minimum height of fill shall be 300 mm or D/5, whichever is greater, measured from the underside of the pavement structure. Fill material should be the same as the backfill material.



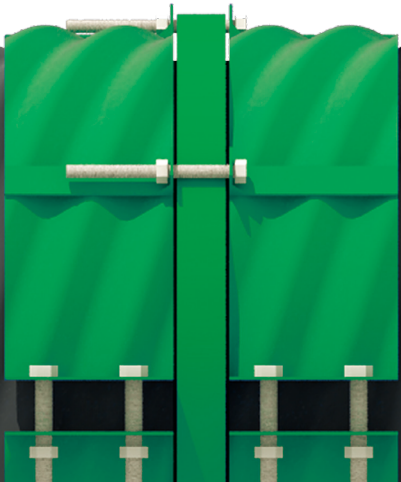
○ Compaction and Backfill

To support the overlying structure safely, a pipeline beneath a road must act as a sound composite (soil–steel) structure. The safety of a buried structure depends not only on adequate design of the structure itself but on well-executed backfill. To preserve the shape and structural stability of a flexible pipe, the selection, placement and compaction of the backfill around the pipe are critical. This backfill envelope must transfer the pressures acting on the structure into the adjacent ground. In some respects the requirements for selecting and placing the backfill around the pipe are similar to those for a road embankment. The soil immediately surrounding the pipe must be compacted to an adequate density. Structural backfill is the material adjacent to the pipe from the invert up to 300 mm above the crown or 1/8 of the pipe diameter, whichever is greater. Good-quality granular soil shall be used wherever possible. Backfill shall be placed evenly on both sides in lifts of approx. 150 mm compacted thickness to a minimum of 95 % of maximum dry density. Particular care is required when compacting the lower half of the pipe (haunches).



○ Online Inquiry

Creating future value through challenge and innovation, built on technical excellence. Scan the QR code to go directly to our online inquiry page for a quick and convenient consultation.



Product Identification Codes (G2B)

○ Corrugated Steel Pipe (Standard)

Spec. Dia.		60mm × 10mm		68mm × 13mm(1S)				76.2mm × 25.4mm(3S)			Band	Tee
		Helical	Perf.	1.6T	2.0T	2.7T	3.2T	2.0T	2.7T	3.2T		
Ø150	G2B code	20959052	20959113								20959120	20959145
Ø200	G2B code	20959053	20959114								20959121	20959146
Ø250	G2B code	20959054	20959115								20959122	20959147
Ø300	G2B code		20959116	20959055	20959065						20959123	20959148
Ø350	G2B code		20959117	20959056	20959066						20959124	20959149
Ø400	G2B code		20959118	20959057	20959067						20959125	20959150
Ø450	G2B code		20959119	20959058	20959068						20959126	20959151
Ø500	G2B code		22362694	20959059	20959069						20959127	20960262
Ø600	G2B code		22362695	20959060	20959070	20959078					20959128	20960263
Ø700	G2B code			20959061	20959071	20959079					20959129	20960264
Ø800	G2B code			20959062	20959072	20959080					20959130	20960265
Ø900	G2B code				20959073	20959081		22351292	22377225		20959131	20960266
Ø1000	G2B code				20959074	20959082	22070745	22351294	22377226	22450783	20959132	20960267
Ø1100	G2B code					20959083	22070746	22351293	22377227	22450771	20959133	20960268
Ø1200	G2B code					20959084	22070747	20959089	20959093	22450772	20959134	20960269
Ø1350	G2B code					20959085	22070748	20959090	20959094	22450773	20959135	20960270
Ø1500	G2B code					20959086	22070749	20959091	20959095	20959104	20959136	20960271
Ø1650	G2B code						22070750		20959096	20959105	20959137	20960272
Ø1800	G2B code						20959088		20959097	20959106	20959138	20960273
Ø2000	G2B code									20959107	20959139	20960274
Ø2200	G2B code									20959108	20959140	20960275
Ø2400	G2B code									20959109	20959141	20960276

Product Identification Codes (G2B)

○ PE-Coated CSP (Both Sides)

Dia.	Smooth-interior / PE inside-coated							T-branch	Helical Flange
	68mm × 13mm(1S)				76.2mm × 25.4mm(3S)				
	1.6T	2.0T	2.7T	3.2T	2.0T	2.7T	3.2T		
Ø300	24589278							24592242	22836900
Ø350	24589279							24592243	22836901
Ø400	24589280	24589284						24592244	22836902
Ø450	24589281	24589285						24592245	22836903
Ø500	24589282	24589286						24592246	22836904
Ø600	24589283	24589287	24589292					24592247	22836905
Ø700		24589288	24589293					24592248	22836889
Ø800		24589289	24589294					24592249	22836890
Ø900		24589290	24589295		24589304			24592250	22836891
Ø1000		24589291	24589296		24589305			24592251	22836892
Ø1100			24589297		24589306			24592252	22836893
Ø1200			24589298	24589299	24589307			24592253	22836894
Ø1350				24589300		24589309		24592254	22836895
Ø1500				24589301		24589310	24589313	24592255	22836896
Ø1650				24589302		24589311	24589314	24592256	22836897
Ø1800				24589303		24589312	24589315	24592257	22836898
Ø2000							24589316	24592258	22836899
Ø2200							24589317	24592259	24672193
Ø2400							24589318	24592260	24672194

○ PE-Coated CSP (Inside)

Dia.	Smooth-interior / PE inside-coated							T-branch	Helical Flange
	68mm × 13mm(1S)				76.2mm × 25.4mm(3S)				
	1.6T	2.0T	2.7T	3.2T	2.0T	2.7T	3.2T		
Ø300	24589237							24592223	22836900
Ø350	24589238							24592224	22836901
Ø400	24589239	24589243						24592225	22836902
Ø450	24589240	24589244						24592226	22836903
Ø500	24589241	24589245						24592227	22836904
Ø600	24589242	24589246	24589251					24592228	22836905
Ø700		24589247	24589252					24592229	22836889
Ø800		24589248	24589253					24592230	22836890
Ø900		24589249	24589254		24589263			24592231	22836891
Ø1000		24589250	24589255		24589264			24592232	22836892
Ø1100			24589256		24589265			24592233	22836893
Ø1200			24589257	24589258	24589266			24592234	22836894
Ø1350				24589259		24589268		24592235	22836895
Ø1500				24589260		24589269	24589272	24592236	22836896
Ø1650				24589261		24589270	24589273	24592237	22836897
Ø1800				24589262		24589271	24589274	24592238	22836898
Ø2000							24589275	24592239	22836899
Ø2200							24589276	24592240	24672193
Ø2400							24589277	24592241	24672194

○ Smooth-Interior CSP, Both Sides Coated

Dia.	Spec.	60mm × 10mm		68mm × 13mm(1S)				76.2mm × 25.4mm(3S)			Band	Tee
		Helical	Perf.	1.6T	2.0T	2.7T	3.2T	2.0T	2.7T	3.2T		
Ø150	G2B code	22126049	22370545								22379962	22126051
Ø200	G2B code	21113246	22370546								21113344	21113364
Ø250	G2B code	21113247	22370547								21113345	21113365
Ø300	G2B code		22370548	21113248	21113258						21113346	21113366
Ø350	G2B code		22370549	21113249	21113259						21113347	21113367
Ø400	G2B code		22370550	21113250	21113260						21113348	21113368
Ø450	G2B code		22370551	21113251	21113261						21113349	21113369
Ø500	G2B code		22370552	21113252	21113262						21113350	21113370
Ø600	G2B code		22370553	21113253	21113263	21113269					21113351	21113371
Ø700	G2B code			21113254	21113264	21113270					21113352	21113372
Ø800	G2B code			21113255	21113265	21113271					21113353	21113373
Ø900	G2B code				21113266	21113272		22351283	22377229		21113354	21113374
Ø1000	G2B code				21113267	21113273	22379963	21113277	21113286	22449673	21113355	21113375
Ø1100	G2B code					22070752	22379964	22377228	22377230	22449674	22070755	22070756
Ø1200	G2B code					21113274	22379965	21113278	21113287	22449675	21113356	21113376
Ø1350	G2B code					21113275	22379966	21113279	21113288	22449676	21113357	21873529
Ø1500	G2B code					21113276	22379967	21113280	21113289	22449677	21113358	21864947
Ø1650	G2B code						22379968		21113290	22449678	21113359	21873530
Ø1800	G2B code						22379969		21113291	22351285	21113360	21873531
Ø2000	G2B code									22351286	21113361	21873532
Ø2200	G2B code									22351287	21113362	21873533
Ø2400	G2B code									22351288	21113363	21873534

○ Smooth-Interior CSP, Inside Coated

Dia.	Spec.	60mm × 10mm		68mm × 13mm(1S)				76.2mm × 25.4mm(3S)			Band	Tee
		Helical	Perf.	1.6T	2.0T	2.7T	3.2T	2.0T	2.7T	3.2T		
Ø150	G2B code	22126050	22370554								20959120	22126052
Ø200	G2B code	21113295	22370555								20959121	21113377
Ø250	G2B code	21113296	22370556								20959122	21113378
Ø300	G2B code		22370557	21113297	21113307						20959123	21113379
Ø350	G2B code		22370558	21113298	21113308						20959124	21113380
Ø400	G2B code		22370559	21113299	21113309						20959125	21113381
Ø450	G2B code		22370560	21113300	21113310						20959126	21113382
Ø500	G2B code		22370561	21113301	21113311						20959127	21113383
Ø600	G2B code		22370562	21113302	21113312	21113318					20959128	21113384
Ø700	G2B code			21113303	21113313	21113319					20959129	21113385
Ø800	G2B code			21113304	21113314	21113320					20959130	21113386
Ø900	G2B code				21113315	21113321		22351274	22377232		20959131	21113387
Ø1000	G2B code				21113316	21113322	22379970	21113326	21113335	22450778	20959132	21113388
Ø1100	G2B code					22070754	22379971	22377231	22377233	22450779	20959133	22070757
Ø1200	G2B code					21113323	22379972	21113327	21113336	22450780	20959134	21113389
Ø1350	G2B code					21113324	22379973	21113328	21113337	22450781	20959135	21873535
Ø1500	G2B code					21113325	22379974	21113329	21113338	22450782	20959136	21873536
Ø1650	G2B code						22379975		21113339	22450770	20959137	21873537
Ø1800	G2B code								21113340	22351276	20959138	21873538
Ø2000	G2B code									22351277	20959139	21873539
Ø2200	G2B code									22351278	20959140	21873540
Ø2400	G2B code									22351279	20959141	21874234

Couplings (helical flange) are common to both-sides-coated and inside-coated smooth-interior CSP.

○ Allowable Fill Height by Diameter

D (mm)	KS D 3590 Type 1S (68 × 13 mm)												
	Min. cover depth (m)	1.6t (52 yrs)			2.0t (64 yrs)			2.7t (85 yrs)			3.2t (97 yrs)		
		Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m²)	Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m²)	Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m²)	Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m²)
300	0.3	59.4	17	33,85	73	20	41,580						
350		40.2	18.7	26,740	48.8	23	32,420						
400		29.5	21.4	22,380	35.2	26.3	26,740						
450		22.6	23.1	29,620	27	29.3	23,060						
500		18.8	26.4	17,860	21.7	21.7	20,640						
600		14.1	30.8	16,050	15.8	38.5	17,990	18.9	50.5	21,520	21.1	59.9	24,200
700		11.7	34.5	15,540	12.8	43.2	16,970	14.7	56.9	19,560	16.2	67.4	21,520
750		10.9	37	15,570	11.8	46.3	16,800	13.4	61	19,070	14.8	72.2	21,050
800		10.3	39.5	15,520	11.1	49.3	16,810	12.4	65	18,790	13.4	77.1	20,300
900		9.5	44.7	16,290	10	55.5	17,150	10.9	72.8	18,720	11.6	85	19,910
1000		9	49.9	17,120	9.4	62.1	17,820	10	80.7	19,090	10.6	94	20,050
1100			54.9	18,110	8.9	67.8	18,680	9.4	88.8	19,730	9.8	103.4	20,530
1200	0.3	8.4	58.6	19,200	8.6	74	19,680	9	96.6	20,570	9.3	112.4	21,230
1300	0.45				8.4	80.2		8.7	104.5				
1350					8.3	83.2	21,370	8.6	108.5	22,070	9.1	126.1	23,380
1400					8.3	86.3		8.5	112.5				
1500								8.3	110.4	23,750	8.5	141.2	24,180
1600								8.2	128.4				
1650								8.2	132.3	25,560	8.3	154.9	25,910
1700								8.1	136.4				
1800	0.45										8.1	168.6	27,750
1900													
2000													
2100													
2200	0.6												
2300													
2400													

○ Allowable Fill Height by Diameter

D (mm)	KS D 3590 Type 3S (76.2 × 25.4 mm)									
	Min. cover depth (m)	2.0t (64 yrs)			2.7t (85 yrs)			3.2t (97 yrs)		
		Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m ²)	Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m ²)	Fill height (m)	Pipe mass (kg/m)	5% defl. ext. load cap. (kg/m ²)
300										
350										
400										
450										
500										
600										
700										
750										
800										
900		18.6	63.2	31,830	22.7	83.2	38,740			
1000		15.6	69	29,700	18.6	92	35,300			
1100		13.6	75.9	28,500	15.9	101.2	33,130	18.1	119.2	37,820
1200	0.3	12.3	83.2	27,940	14	109.4	31,830	15.2	130.2	34,680
1300	0.45	11.3	90.6		12.6	118.8		13.6	139.9	
1350		10.9	94	27,880	12.1	123.4	30,960	13	145.3	33,220
1400		10.5	97.5		11.6	128		12.4	150.6	
1500		10	103.3	28,470	10.9	136.8	30,960	11.5	161.7	32,790
1600		9.6	110.2		10.3	415.9		10.8	172.5	
1650		9.4	114.1	29,460	10.1	150.1	31,520	10.5	176.8	33,030
1700		9.2	117.5		9.8	154.7		10.3	182.1	
1800	0.45	9	124.9	30,740	9.5	163.5	32,470	9.9	191.9	33,790
1900	0.6	8.8	131.8		9.2	172.6		9.5	202.5	
2000		8.6	137.6	32,740	9	181.4	31,140	9.3	213.6	35,170
2100		8.5	144.9		8.8	190.3		9	224.7	
2200		8.4	151.8	34,970	8.6	199.3	36,130	8.8	235.4	36,980
2300		8.3	157.6		8.5	215.9		8.7	245.1	
2400		8.2	165	37,370	8.4	218.5	38,330	8.6	257.6	39,040