

# Kor-Flo<sup>®</sup> PVC Profile Pipe

To Connect Services to New  
or Existing Sewer Lines



# KOR-FLO® PVC PROFILE PIPE

Storm and Sanitary Pipe for use with Kor-Flo PVC Profile Fittings.

## About Kor-Flo PVC Profile Pipe

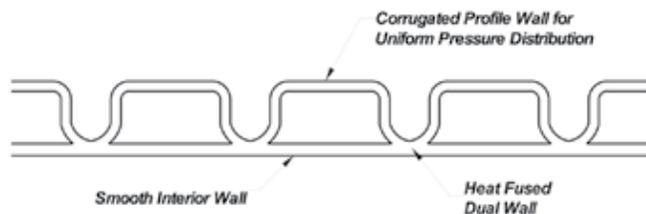
Kor-Flo PVC Profile Pipe is a dual wall corrugated pipe. It is lighter than solid wall SDR 35 gasketed sewer pipe but has the same strength and flow properties. Our Kor-Flo PVC Profile Pipe is cost effective and easy to install. We also carry a complete line of fittings to complement our pipe.

**Kor-Flo PVC Profile Pipe has many applications, including:**

- storm and sanitary sewers
- gravity industrial lines
- highway and road drainage

Kor-Flo PVC Profile Pipe is a heat fused dual wall pipe with a corrugated exterior wall to provide greater stiffness and limit deflection. The interior wall is smooth, ensuring superior flow characteristics. Gaskets are installed on the spigot end of the pipe during the manufacturing process.

Kor-Flo PVC Profile Pipe is available in 200mm - 900mm (8" - 36") diameters in 4.27 metre (14') lengths. We also have a complete line of fittings and adapters to offer the most effective sewer system possible.



We are recognized for its high quality products. Our state-of-the-art extrusion equipment and computerized material handling system ensure consistency. Our quality control testing guarantees that the pipe you install will perform in the application.

Kor-Flo PVC Profile Pipe is lightweight and easy to handle. The corrugations will not lock together when pipe lengths are lying beside one another and will not dig into the bedding when the pipe is placed in the trench.

## Installation

Kor-Flo PVC Profile Pipe weighs less than solid wall sewer pipe, therefore handling and installation costs are reduced substantially. Our pipe can be easily cut in the field and the joint assembly can be handled in the trench without using heavy equipment.

Kor-Flo PVC Profile Pipe and Fittings shall be manufactured with a nominal inside diameter of 200mm - 900mm (8" - 36") and Pipe Stiffness (PS) of 320kPa (46psi) and shall be certified to CSA B182.4 Profile PVC Sewer Pipe and Fittings and conform to the requirements of ASTM F794 Polyvinyl Chloride (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter. The elastomeric gasket joints shall hold a minimum internal hydrostatic pressure of 100kPa (15psi).



## Colour Coding

Kor-Flo PVC Profile Pipe is colour coded green. Kor-Flo PVC Profile fabricated fittings are green.

Kor-Flo PVC Profile Pipe has many applications, including storm and sanitary sewers, gravity industrial lines and highway and road drainage.

## Certifications

Kor-Flo PVC Profile Pipe proudly meets the following standards:



B182.4



F794



OPS 1841  
OPSD 806.040

### Joining

Clean the bell and spigot of all debris. Lubricant must only be applied to the interior of the bell end. Do not put lube on the gasket. The pipes are then placed in straight alignment and the spigot is pushed into the bell to the insertion line marked on the pipe. Pipe assembly can be completed by hand using a bar and block, lever pullers or hydraulic jacks.

Our factory-installed gaskets eliminate the problems of rolling or fish mouthing. Care should be taken to avoid over insertion into the pipe bell beyond the spigot insertion line.

### Lubricant

Kor-Flo PVC Profile Pipe must be assembled with NAPCO non-toxic, water-soluble lubricant which is listed by the National Sanitation Foundation (NSF).



### Fittings

We carry a complete line of fabricated fittings to complement our Kor-Flo PVC Profile Pipe. Our fittings are third-party certified to CSA B182.4 Standard. Kor-Flo PVC Profile Fittings have been designed for use with both Kor-Flo PVC Profile Pipe and other types of profile pipe. The fittings are fabricated from sections of certified pipe. We also offer a complete range of adapters for joining NAPCO Kor-Flo pipe to other types of sewer pipe; making connections to laterals, sewer stubs, sewer and storm mains quick and simple.



### Benefits to Using Kor-Flo PVC Profile Pipe

There are many advantages for using our Kor-Flo PVC Profile Pipe. Our pipe is lightweight, durable and cost effective.

### Dual Wall System

Kor-Flo PVC Profile Pipe is a dual wall pipe that provides an extremely smooth interior wall which provides excellent flow rates and resists the build up of solids. This smooth interior yields a Manning flow coefficient of  $n=0.009$ .



### Cost Savings

When compared to solid wall SDR35 pipe, Kor-Flo PVC Profile Pipe is lightweight thereby greatly reducing the time, manpower, and heavy equipment normally associated with storm and sanitary pipe installations.

### Superior Pipe Stiffness

Kor-Flo PVC Profile Pipe has a concentrically corrugated exterior wall that acts as a reinforcing support, therefore providing exceedingly high stiffness. Kor-Flo PVC Profile Pipe has a minimum pipe stiffness of 320kPa (46psi) and works in conjunction with embedment materials to minimize deflection after installation.

### Toughness

Manufactured from the highest quality PVC, Kor-Flo PVC Profile Pipe is resistant to abrasion, scouring, root penetration, and acidic and alkaline soil conditions. Kor-Flo PVC Profile Pipe is not affected by chemicals normally found in sewage and will not be damaged by normal sewer cleaning practices.

### Product Quality

NAPCO extrusion facilities make each operator responsible for quality. Our pipe is continually tested in our quality control laboratory to ensure conformance with CSA and ASTM requirements. No pipe enters our yard without the seal of approval from our quality control team.

**Quality Control and Assurance**

Kor-Flo pipe undergoes extensive testing and inspection in our manufacturing facilities in accordance with CSA B182.4, ASTM F794 and BNQ NQ3624-135 Standards (8" to 18"). The following testing assures our outstanding product quality.

**Extrusion Quality Test**

The pipe will not flake or disintegrate after being immersed in anhydrous acetone for 20 minutes. There is no separation of the two walls in dual wall corrugated pipe. Specimens are tested in accordance with ASTM D2152.

**Bond Strength**

It shall not be possible to cleanly separate the inner and outer walls at the corrugation valley with a sharp probe or knife point when a sample is tested at eight points equally spaced around the circumference of the pipe.



**Flattening Test**

Three specimens of the pipe, each about 150mm (6") long are be flattened between parallel plates in a suitable press until the distance between the plates is 40% of the original outside diameter of the pipe. The rate of loading is uniform and such that the compression is completed within 2 to 5 minutes. The specimens shall be examined for evidence of splitting, cracking or breaking.



**Impact Resistance Test**

Samples of pipe to be tested for low temperature impact resistance are conditioned at 0°C for 16 hours. After conditioning, five samples are tested. There shall be no evidence of shattering, cracking or splitting of the waterway wall when the pipe is tested. There shall be no separation of the two walls in dual wall corrugated pipe.

**Pipe Stiffness**

The minimum pipe stiffness is 320kPa (46psi) when tested at 5% deflection in accordance with ASTM D2412.

Dimensions		
Nominal Size mm (in)	Average Inside Diameter mm (in)	Average Outside Diameter mm (in)
200 (8)	200 (7.89)	218 (8.60)
250 (10)	250 (9.86)	274 (10.79)
300 (12)	298 (11.73)	325 (12.80)
375 (15)	365 (14.37)	398 (15.66)
450 (18)	448 (17.65)	486 (19.15)
525 (21)	527 (20.75)	573 (22.58)
600 (24)	597 (23.51)	650 (25.59)
750 (30)	749 (29.50)	817 (32.15)
900 (36)	901 (35.44)	984 (38.76)

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**Calculated Deflections (%) of Buried PVC Pipe for Prism and H<sup>2</sup>O Loads**

Pipe Stiffness	Modulus of Soil Reaction (E'), psi	Height of Cover (ft)															
		2		6		10		14		18		22		26		30	
		Load Type															
		Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O	Prism	H <sup>2</sup> O
46 psi	50	1.7	9.3	5.1	6.7	8.4	8.4	11.8	11.8	15.2	15.2	18.5	18.5	21.9	21.9	25.2	25.2
	200	0.9	4.8	2.6	3.5	4.4	4.4	6.1	6.1	7.9	7.9	9.6	9.6	11.4	11.4	13.1	13.1
	400	0.5	3.0	1.6	2.1	2.7	2.7	3.7	3.7	4.8	4.8	5.9	5.9	6.9	6.9	8.0	8.0
	1000	0.3	1.4	0.7	1.0	1.2	1.2	1.7	1.7	2.2	2.2	2.7	2.7	3.2	3.2	3.7	3.7
	2000	0.1	0.7	0.4	0.5	0.7	0.7	0.9	0.9	1.2	1.2	1.4	1.4	1.7	1.7	1.9	1.9

 % Deflection is 7.5% or less, Burial Conditions are Acceptable.

 % Deflection is more than 7.5%, Burial Conditions are Unacceptable.

Modulus of Soil Reaction, E', values are determined based on pipe bedding material type, placement and compaction  
E' values for specific burial conditions can be found in Table 7.3 in the Handbook of PVC Pipe Design and Construction

**Notes:**

Pipe Deflection values in the above table are calculated using the Modified Iowa Formula and the following:

- Bedding Constant, K = 0.1
- Deflection Lag Factor, DL = 1.0
- Soil Unit Weight for Earth Load = 120 lb/ft<sup>3</sup>

**Our various pipe and fittings solutions have been manufactured to meet the need of our customers and their applications. Contact one of the Sales Centres for more information:**

**Sales & Distribution Centres:**

Langley, BC, Canada  
T/F 1.800.663.0696  
F 1.800.663.6564

Woodbridge, ON, Canada  
T/F 1.866.769.7473  
F 905.856.3986

Laval, QC, Canada  
T/F 1.800.465.9754  
F 450.688.6624

**Distribution Centres:**

Calgary, AB, Canada  
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F 1.800.663.6564

Winnipeg, MB, Canada  
T/F 1.800.663.0696  
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