



Plastic Pipe and Fittings Association

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## **Transition Between Cast Iron Soil Pipe and Schedule 40 (IPS) PVC or ABS Pipe**

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The outside diameter (OD) of cast iron soil pipe and schedule 40 (IPS) PVC or ABS pipe is not the same. Additionally, the dimensional differences between these piping systems vary greatly by pipe size. Fortunately, there are excellent products available that can be used to transition between cast iron soil pipe and schedule 40 PVC or ABS pipe.

## Below Ground Applications

Transitions between cast iron soil pipe and schedule 40 (IPS) PVC or ABS can be made employing an un-shielded transition coupling conforming to ASTM C1173 in below ground applications. These couplings are comprised of an elastomeric body with two or more stainless steel clamps. One coupling hub is made to conform to the dimensional requirements of cast iron soil pipe while the other hub conforms to the dimensional requirements of schedule 40 (IPS) PVC or ABS. Unshielded couplings conforming to ASTM C1173 should not be used in above ground applications.

## Above Ground Applications

When making transitions between cast iron soil pipe and schedule 40 (IPS) PVC or ABS pipe a shielded coupling conforming to ASTM C1460 should be used. These couplings are comprised of an elastomeric body with a 300 series stainless steel shield and two or more stainless steel clamps. One coupling hub is made to conform to the dimensional requirements of cast iron soil pipe while the other hub conforms to the dimensional requirements of schedule 40 (IPS) PVC or ABS. Shielded couplings conforming to ASTM C1173 should not be used in below ground applications.

## CISPI 310 Couplings

Standard no-hub (hubless) couplings conforming to CISPI 301 may also be used to transition between cast iron soil pipe and schedule 40 (IPS) PVC or ABS in above or below ground applications. However, the use of a CISPI 310 coupling requires the use of a PVC or ABS no-hub adapter fitting that transitions schedule 40 PVC or ABS to cast iron soil pipe dimensions. PVC or ABS no-hub adapter fittings are readily available from multiple manufacturers of

PVC or ABS DWV fittings. Once the no-hub adapter fitting has been solvent cemented onto the PVC or ABS spigot end a CISPI no-hub coupling can be installed following the coupling manufacturer's recommendations.

Note: The scope of ASTM C1277 and CISPI 310 both state that the couplings are for joining Hubless Cast Iron Pipes and fittings manufactured to CISPI 301 and ASTM A888 and do not address schedule 40 PVC or ABS. Confirm approval with the Agency Having Jurisdiction prior to installation.

This bulletin is to provide the above background and to state that when connecting plastic DWV to plain-end cast iron pipe, only approved types of flexible joints, couplings, bushings and adapters, designed for the specific transition intended, should be used. Be certain that these flexible joints, bushings, couplings, and adapters are not made of flexible materials or elastomers that can cause cracking or crazing of plastic piping. Installers should confirm approval for any of the products referenced within this User Bulletin with the Agency Having Jurisdiction prior to installation.

### Reference Standards

ASTM C 1460 Standard Specification for Shielded Transition Couplings for Use With Dissimilar DWV Pipe and Fittings Above Ground

ASTM C 1173 Standard Specification for Flexible Transition Couplings for Underground Piping Systems

*NOTE: This PPFA User Bulletin is designed to provide guidance in achieving the efficient, effective and proper use of plastic pipe. The suggestions and advice contained in this Bulletin are offered merely to provide plastic pipe users with a general frame of reference. Because specific situations may, and often do require special treatment, the suggestions and advice are obviously not universally applicable. Therefore, the user should carefully assess the requirements of his specific situation before making practical application of anything contained in this publication.  
factor of the system.*

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