



**PLASTEC**  
INNOVATIVE PLUMBING SOLUTIONS



# SWIVEL AND EXPANSION JOINTS

SOIL MOVEMENT PRODUCTS



## AN AIRTIGHT SOLUTION FOR SOIL MOVEMENT.

Plastec swivel and expansion joints are Australian made products specifically designed for Australia's ever changing soil conditions.

Plastec swivel and expansion joints have enabled engineers and installers to overcome many of the problems associated with reactive soils and the subsequent structural damage caused. Due to the extremes in temperature in Australia and the prevalence of reactive soils a new Australian standard (ATS5200.055) has been created to specifically cover products with flexible, intermediate joints for drainage and sewerage applications.

Plastec swivel and expansion joints are fully WaterMark approved (ATS5200.055). When soils move they do so in a wave like motion moving both horizontally and vertically whilst also undergoing expansion and contraction. This movement can inflict extreme force and pressure on drainage systems and when damaged can result in cracked walls, damaged footings, raised walls and even damaged slabs to name a few.

Incorporating both Plastec swivel and expansion joints into your drainage plan can assist in offsetting much of the associated problems when working with reactive soils.

## SOIL CLASSIFICATION.

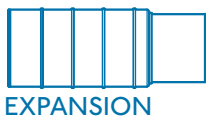
### GENERAL DEFINITION OF SITE CLASSES

- A** Most sand and rock sites with little or no ground movement from moisture changes.
- S** Slightly reactive clay sites with only slight ground movement from moisture changes.
- M** Moderately reactive clay or silt sites which experience moderate ground movement from moisture changes.
- H** Highly reactive clay sites which experience extreme ground movement from moisture changes.

- E** Extremely reactive clay sites which can experience extreme ground movement from moisture changes.
- P** Sites which include soft soils, such as soft clay or silt or loose sands; landslip; mine subsidence; collapsing soils; subject to erosion reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.

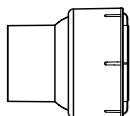
For classes M, H & E further division based on the depth of the expected movement is required. For deep-seated movements, characteristic of dry climates and corresponding to a design depth of suction change H, equal to or greater than 3m, the classification shall be M-D, H-D or E-D as appropriate. For example, H-D represents a highly reactive site with deep moisture changes, and H represents a highly reactive site with shallow moisture changes.

## SWIVEL AND EXPANSION JOINTS.



EXPANSION

SIZE	CODE	OPEN	CLOSED	EXPANSION
150mm	15642	589mm	387mm	202mm
100mm	15130	438mm	285mm	153mm
90mm	15131	313mm	210mm	103mm



SWIVEL

SIZE	CODE	TYPE	ROTATION FROM AXIS
150mm	15643	F x F	+/- 20°
100mm	15132	F x F	+/- 20°
100mm	15199	M x F	+/- 20°

Plastec swivel and expansion joints provide flexibility to your pipe work system to achieve optimum performance and peace of mind. Please note it is a mandatory requirement that all builders obtain a soils report from a qualified soils engineer prior to commencing on-site structural works.

## EXPANSION JOINT.

The correct installation of expansion joints will allow for flexibility within a drainage system. Expansion joints can be installed in either a vertical or horizontal position and can be used as a repair fitting or as a drainage fitting to accommodate expansion and contraction above or below ground.

The expansion joint provides an easy solution for pipe repair as it provides a water tight seal whilst allowing for future soil movement.

At the time of installation the white spacer tab is to be removed and the spigot /pipe end of the joint pushed home to the bottom of the socket.

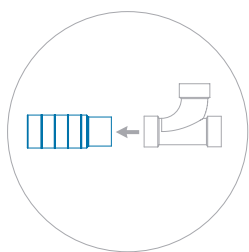
This will allow for the joint to be freely withdrawn to the required setout for installation.

The expansion joint is available in 90mm, 100mm and 150mm. For full expansion measurements refer to the product guide table.

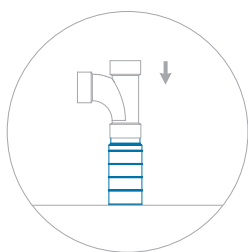
## INSTALLATION.

### Typical pipe repair installation.

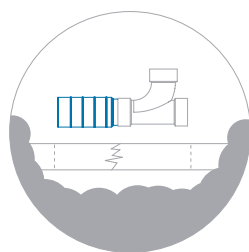
Plastec expansion joints provide superior flexibility in a drainage system when correctly installed. Expansion joints can be used in vertical or horizontal positions and can be used above or below ground.



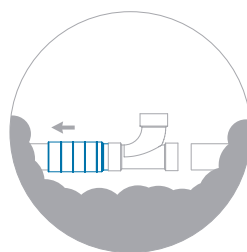
1. Glue required fitting to spigot end of expansion joint.



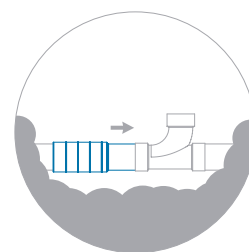
2. Remove the plastic spacer from inside the expansion joint and push downwards against a hard surface until joint is fully closed.



3. Measure area of broken pipe by using expansion joint and fitting. Cut and remove pipe.

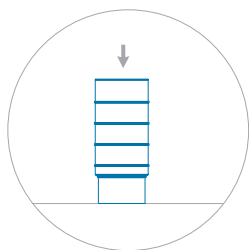


4. Remove swarf and glue socket end of expansion joint to pipe as per AS/NZS3879.

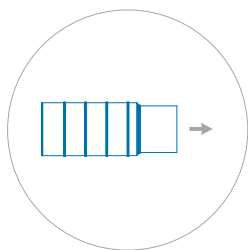


5. Glue end of fitting and expand onto pipe as per AS/NZS3879.

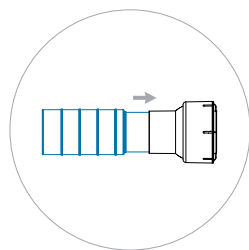
Where reactive soils are a concern, the expansion joint should be used in conjunction with Plastec's swivel joint.



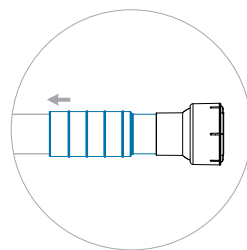
1. Prior to installing remove plastic spacer from expansion joint. Push again on a hard surface until fitting is full closed.



2. Expand fitting until set in the middle. This allows for roughly 75mm expansion and 75mm contraction.



3. Clean and glue pipe end of expansion joint into a FxF swivel joint. Swivel joint also available in MxF.



4. Clean and glue pipe work into socket end of expansion joint.



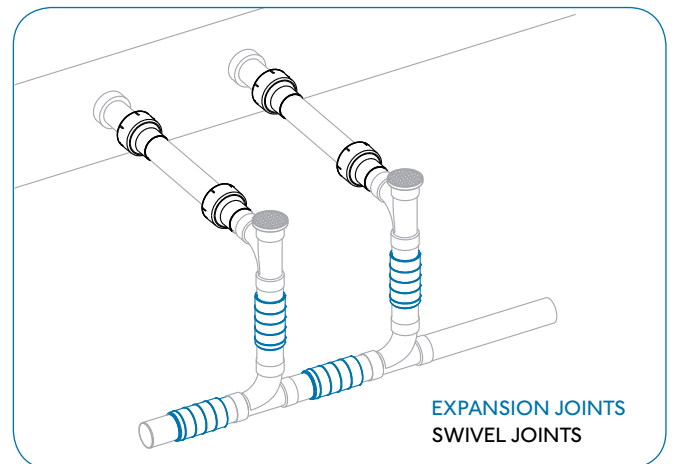
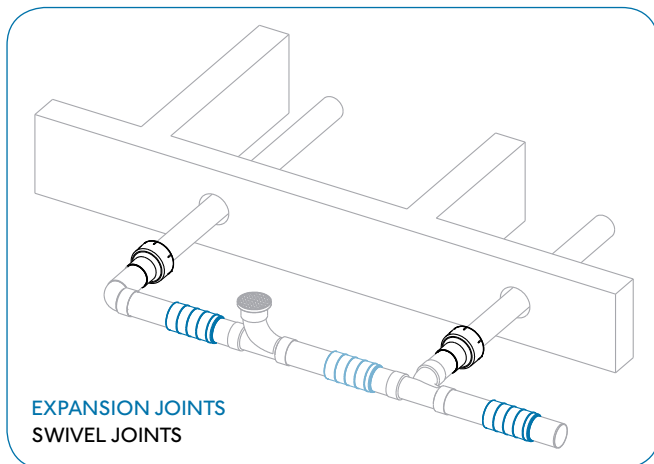
The 100mm and 150mm Plastec expansion joints are fully WaterMarked in all states of Australia and can be tested in accordance to AS3500.

ELIMINATE THE RISK FACTOR AND ALLOW NATURE TO TAKE ITS COURSE!  
BY USING SWIVEL AND EXPANSION JOINTS YOU CAN RISK MANAGE ANY  
DRAINAGE SYSTEM.

Plastec's fully watermarked swivel joint has been independently air tested in excess of 200kpa. It doesn't require the use of toxic root inhibitor tape, is a compact size and comes in both FxF and MxF for ease of installation. Plastec's swivel joint can rotate 20 degrees from its axis giving it more flexibility than any other joint on the market. Like the expansion joint it is able to be air tested in accordance with AS3500.



## TYPICAL INSTALLATION.



## JOINTING PROCEDURE.

1. Surfaces to be joined should be clean and free from moisture and foreign matter.
2. Prepare both fitting and pipe surfaces with approved primer.
3. Apply a uniform coat of type N solvent cement and avoid puddling of cement to both surfaces as per AS/NZS3879.
4. Insert pipe into fitting until it bottoms. If possible turn the pipe during assembly one quarter of a turn to evenly distribute the solvent cement.
5. Allow joint to set as per manufacturers instructions.

FOR TECHNICAL AND SALES ENQUIRES PLEASE CONTACT

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