

# Procedure for Repair

## PRO and FLO Pipes with Slip Couplings

In situations where an installed section of StormPRO® and StormFLO® pipes has been damaged, that damaged section of pipe can be removed and replaced with a new section using Slip Couplings. It should be noted that regardless of the size of the damaged area, a minimum length of pipe must be cut out for practical and manoeuvrability reasons. This is dependent on pipe diameter as shown in the table.

PIPE DN	SLIP COUPLING LENGTH	MINIMUM REPLACEMENT LENGTH (MM)	NUMBER OF CORRUGATIONS
150	180	578	33
225	240	760	29
300	325	977	28
375	320	1033	23
450	338	1109	21
525	432	1386	21
600	487	1583	21
750	650	2024	23
900	650	2112	20

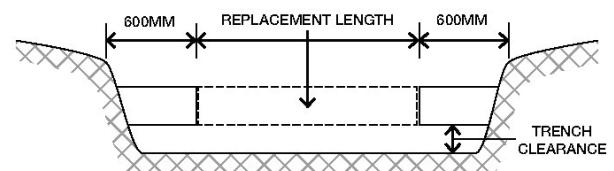


It is recommended that the slip coupling is assembled with two rubber rings on each spigot. A sealing ring and a support ring.

### Joining Method

#### Step 1 Excavate

Excavate and expose the full Replacement Length of the pipe plus an additional length of 600mm at each end. A minimum Trench Clearance of 100mm for sizes up to and including 450 and 150mm for sizes above 450mm between the underside of the sewer and the trench floor is recommended.



#### Step 2 Temporary Supports

Place temporary supports under each end of the exposed section immediately adjacent to intended cut locations, under the sections of pipe that will not be removed.

#### Step 3 Cut Pipe

Cut out and remove the section of the pipe to be replaced. Ensure that the cuts are square and are located in the valleys between corrugations. Clean and smooth the remaining pipe ends.

#### Step 4 Cut Pipe

Determine and cut the length of pipe required to achieve a neat fit between the cut ends. The maximum gap between the existing pipe and the replacement section should not exceed 10mm. Ensure that the cuts are square and are located in the valleys between corrugations. Clean and smooth the cut ends.

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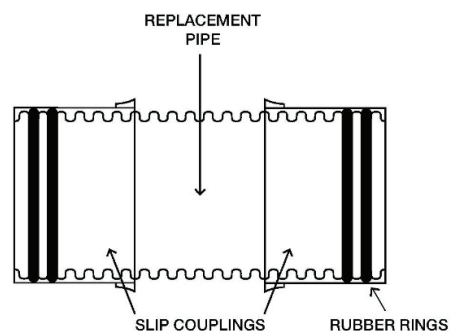
### Step 5 Assembly & Replacement

Assemble the replacement pipe section with the slip couplings and the rubber rings as shown. This can be done beside the trench and then lowered into position in the trench.

- a. Ensure the inside surface of the slip couplings are clean.
- b. Apply a generous quantity of Vinidex jointing lubricant to the inside of the slip coupling.
- c. Slide one slip coupling over each spigot end of the replacement pipe. For DN 450 to DN 900 the coupling should be oriented so that the lugs on the slip coupling are towards the centre of the replacement pipe.

d. Thoroughly clean the spigot ends of the replacement pipe so that they are free of any dirt, grit or lubricant. Ensure that any lubricant that may have been transferred to the spigot valleys where the rubber rings are to be installed is removed.

e. Install two rubber rings on spigot ends by stretching them over the spigot so that they seat in the first and second valleys from the spigot end, i.e. between the first and second ridges and the second and third ridges.



f. Using a bar, apply a force to the lugs to push the slip coupling over the rubber rings so that the leading edge of each slip coupling is in line with the end of the replacement pipe.

### Step 6 Rubber Rings

Thoroughly clean the spigot ends of the pipe in the trench making sure that they are free from dirt and grit.

**Hint:** Lay a piece of geotextile fabric, rubber mat, poly tarp or equivalent in the trench under the ends of the existing pipe where each connection is to be made. This is to provide additional protection from dirt and contaminants being introduced into the coupling during jointing

### Step 7 Rubber Rings

Install two rubber rings on spigot ends of the pipes in the trench by stretching them over the spigot so that they seat in the first and second valleys from the spigot end, i.e. between the first and second ridges and the second and third ridges.

### Step 8 Lubricant

Apply Vinidex lubricant to the top of the rubber rings.

### Step 9 Position Pipe

Position the replacement pipe and set to line and grade. Align the slip couplings so that the lugs are at the 45° position.

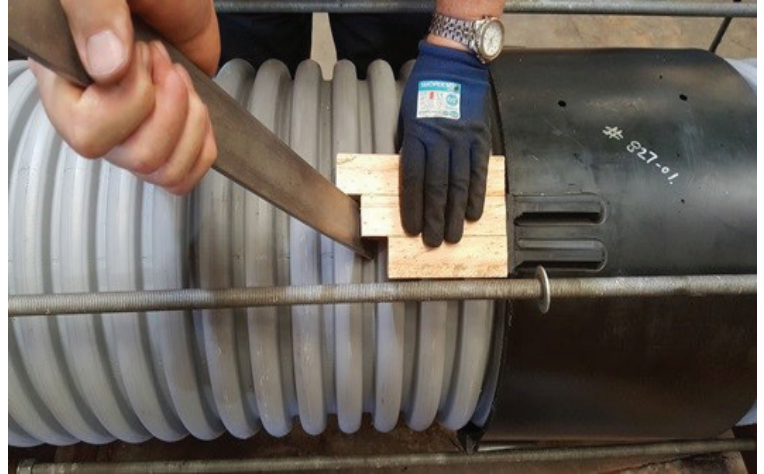
# Procedure for Repair PRO and FLO Pipes with Slip Couplings

## Step 10 Bar

Using a bar, apply a force to the lugs to push the slip coupling over the rubber rings. Ensure the slip coupling is centred and aligned on the joint. Witness marks can be applied to each spigot to assist in centring the slip coupling.

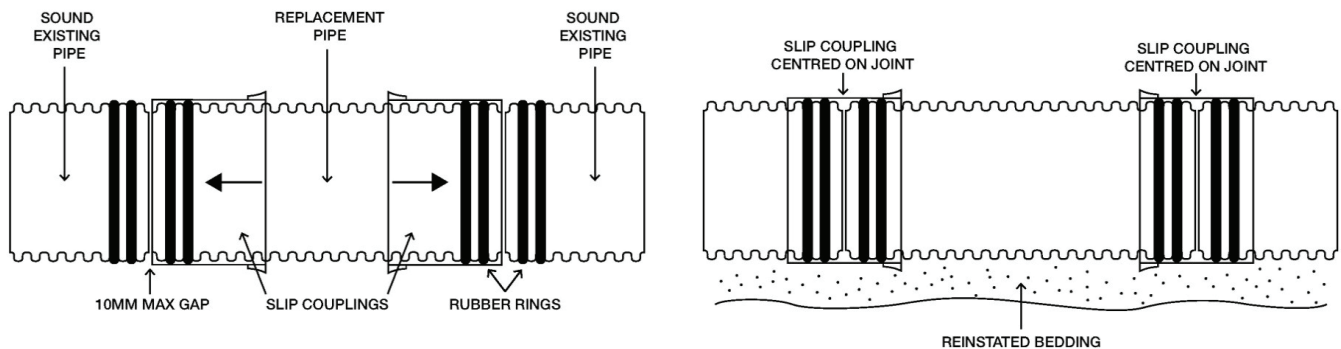
**Hint:** The use of a stepped block between the bar and the face of the lug will significantly reduce the difficulty of pushing the slip coupling over the rings

**Hint:** Having one person on each side pushing at the same time will make this a lot easier as the slip coupling will progress more evenly.



## Step 11 Repeat

Repeat step 10 for the second slip coupling



## Step 12 Remove temporary pipe

Carefully remove the temporary pipe supports while placing embedment material under and around the replacement pipe to ensure sound support of the pipes.

## Step 13 Compact

Place trench fill material in 300mm layers and compact progressively.

## Step 14 Restore

Restore the surface.