

# INTERNAL REPAIR DN 500.0 - DN 4000.0 BORINLINE



Leaks in pipe joints are hard subject to solve with most problematic for all pipe lines. The problem is even greater specially when pipe is under ground, at the bottom of the sea, inside tunnel, in the areas of highway where there is heavy traffic. Outside interference to the pipes seem to be impossible. In such cases, internal pipe repair apparatus present the easiest and fastest solutions.

## INTERNAL REPAIR APPLICATION

- The damaged area is reached from vent-hole where is near to trouble area in pipe line-from ventilation area (vacuum filter) or from an easy access area to reach from a cut opening to the pipe entering if these all are far away.
- The repair can be made in the pressureless lines and without flow lines.

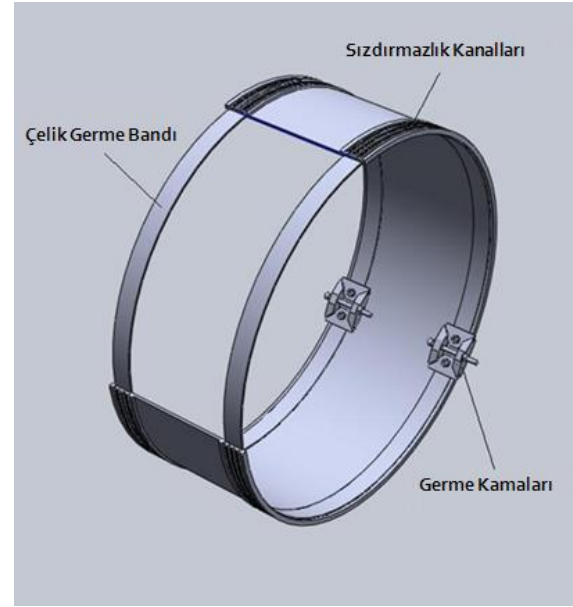


## BORINLINE

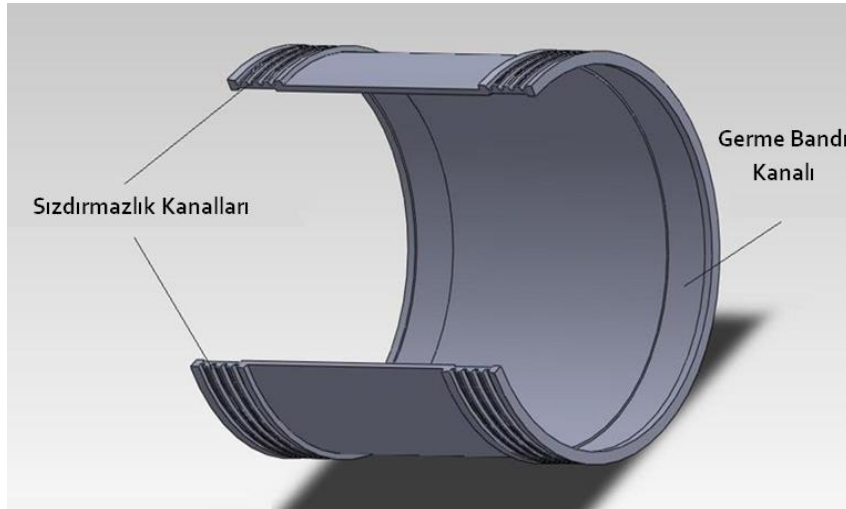
- Borinline internal repair apparatus;  
1 qty One-piece wide- rubber-  
2 qty tensile steel belts  
And tensile and setting connection apparatus.
- It's assembling extremely easy and pipeline transportation are simply and light. The connection is made with mecanics special bolts, and measuring adjustment can be made very easy even changes inside diameter of pipe by adjusting system. The assembling time does not exceed 20 minutes.

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Borinline internal pipe adaptors (as neas Picture), coating is done by bringing it on the damage area or inside the pipe. Steel bands are stretched tightening by help of tensile apparatus at the desired torque. Thus, rubber seal band wraps the pipe tightly. Seal channels for both sides prevents the flow out of the blocks under pressure in the pipe. Rubber band and other parts are designed according to PN16 internal pressure.



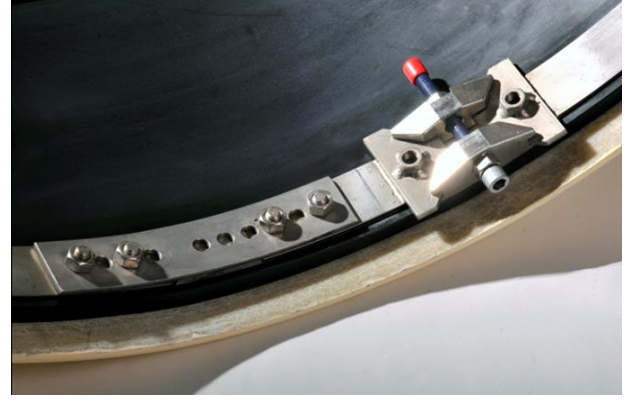
## BORINLINE KESİTİ



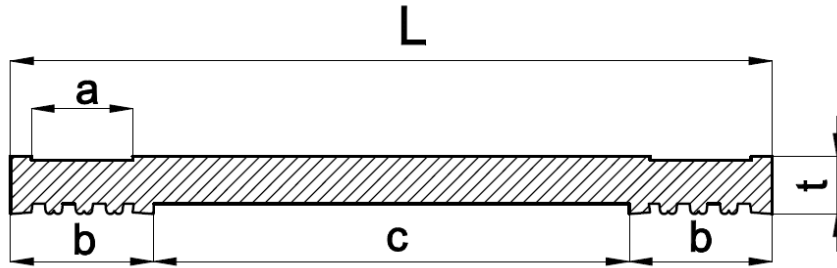
Borinline seal band is one-piece. It is produced specially according to inside diameter of pipe. The sealing is provided by means of forex bilateral located on the symmetrical (four-row channels). There are stretching band slots at the right back of the channels. That prevents the steel band from fittings fully and slideing to the back of the gasket.

## BORINLINE CONTA KESİTİ

'Tightening keys' without using any hydraulic power supply, The tightening is made with only one screw-wrench by tightening from the bolts. The diameter expansion in tensioning bands, which caused by tensile, presses on bands and achieved the sealing. The setting part, which is right near it, is helper insufficient diameter enlargements to set.



## ÖLÇÜ AYAR PLAKASI

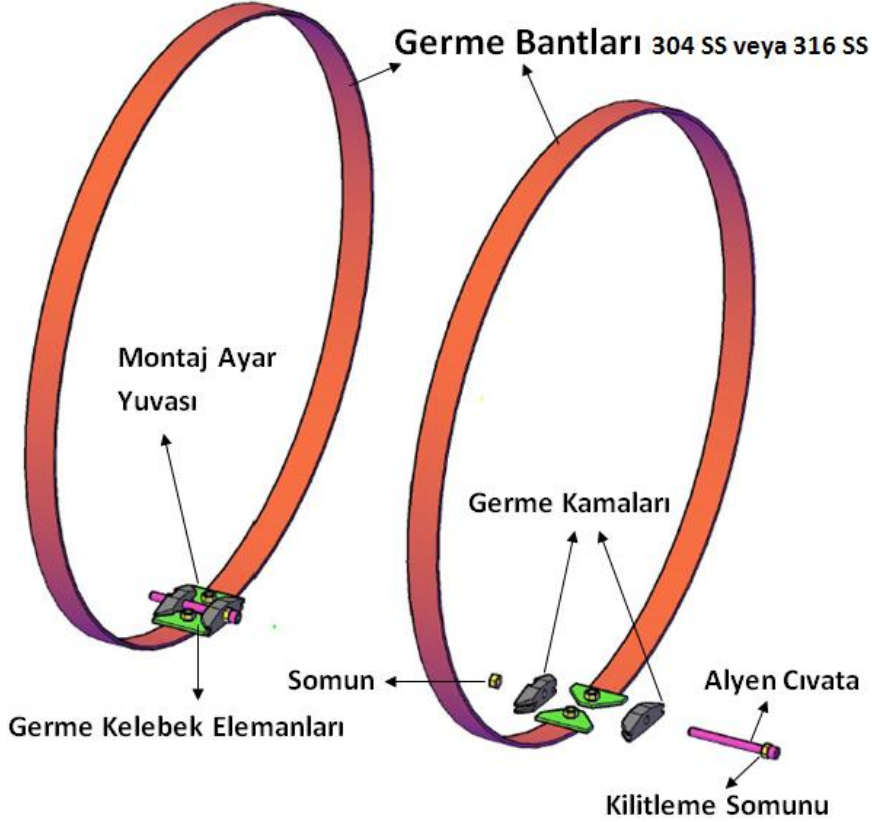


a	b	c	t	L
(mm)	(mm)	(mm)	(mm)	(mm)
51.5	72	268	13	420

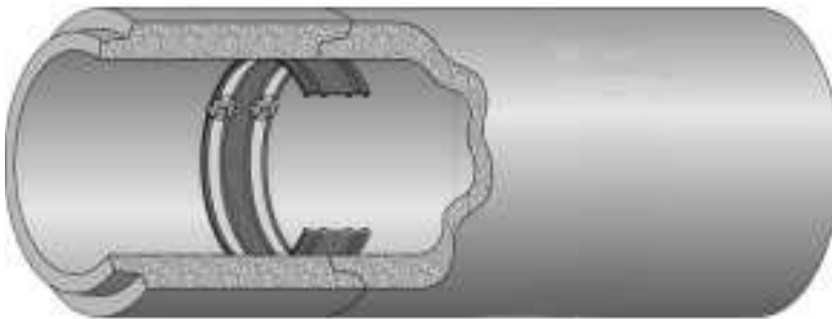
## BORINLINE GASKET CUT-VIEW

The cut-view of Borinline rubber band is seen above. Here are forex channels (four-channel) on both sides. Due to the special forms of these chanel by menas of steel tensioning belt slots (a) which are at the right back side of it, It is designed to provide the sealing being under press from also both two sides. And it is PN16 pressure resistant.

## BORINLINE TENSIONING BANDS



Borinline steel tensioning bands are produced from aisi 304 material as standard. There are 2 tensioning bands in each rubber band. The operation of these stretching bands is provided by swallow expander apparatus where in join. These are produced as stainless steel from precision-casting material. High tensile strenght is applied to the steel band in high torque values.

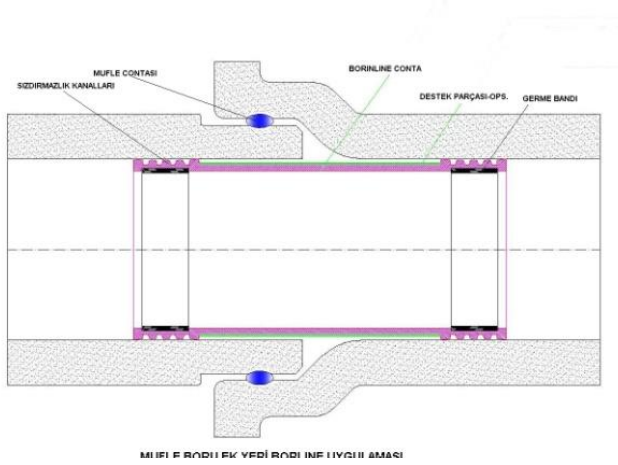


It is showed how using Borinline internal apparatus in the typical joint problem of leakage in the near picture.

BORINLINE CUT-VIEW AFTER ASSEMBLING

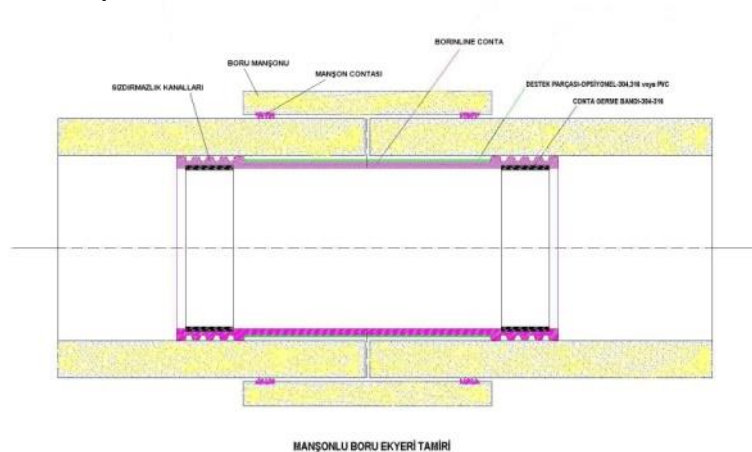
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## BORINLINE APPLICATIONS



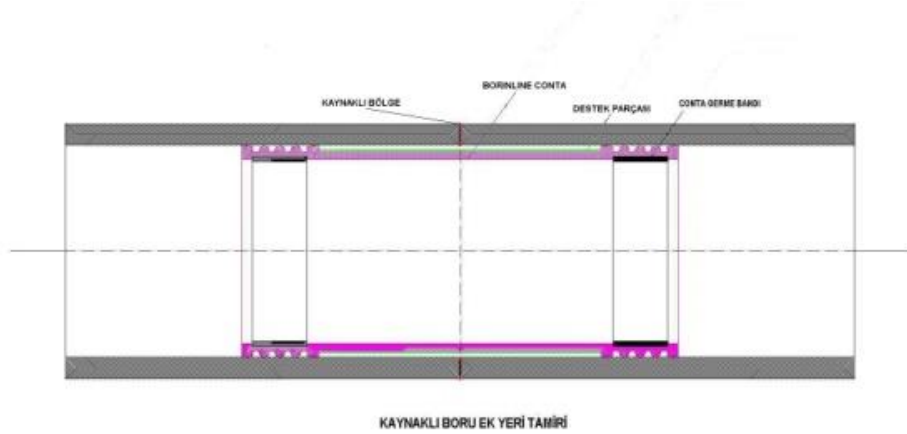
**Repair of joint pipe with muf:**  
Generally in pipe with muf, either the sealing gasket creates problem in the area of mufle by being crashed or the problem is occurred the pipes by opening from mufle areas due to the earth movement. You can see the easiest way to solve the problem with Borinline in the near picture.

**Coupling with pipe:** The problems are frequently seen generally formed as coupling gasket spreading or coupling gasket opening in cpt or asbestos pipe. The outside interference will not be done also in this conditions, the ideal solution is to repair with Borinline.



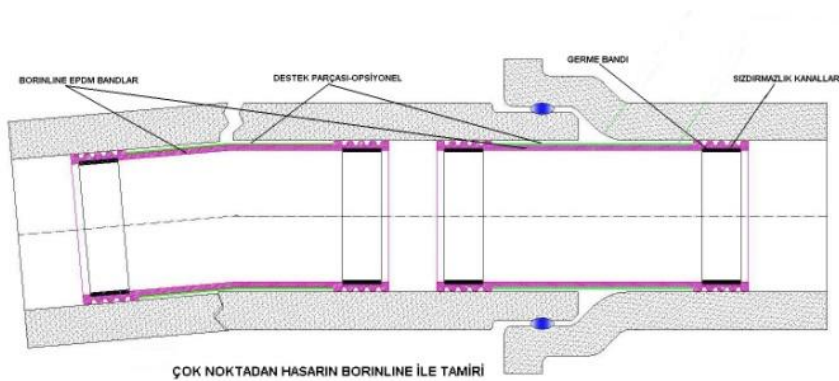
## BORINLINE APPLICATIONS

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Due to the connection areas of welded pipe (steel pipe) is more harder than other pipe material –many problem in pipe movements (horizontal, vertical, round, etc...) appear in these areas. In this status; the problems, which can not be solved with mechanic clamps from outside, solved with this methods very easy.

## BORINLINE APPLICATION

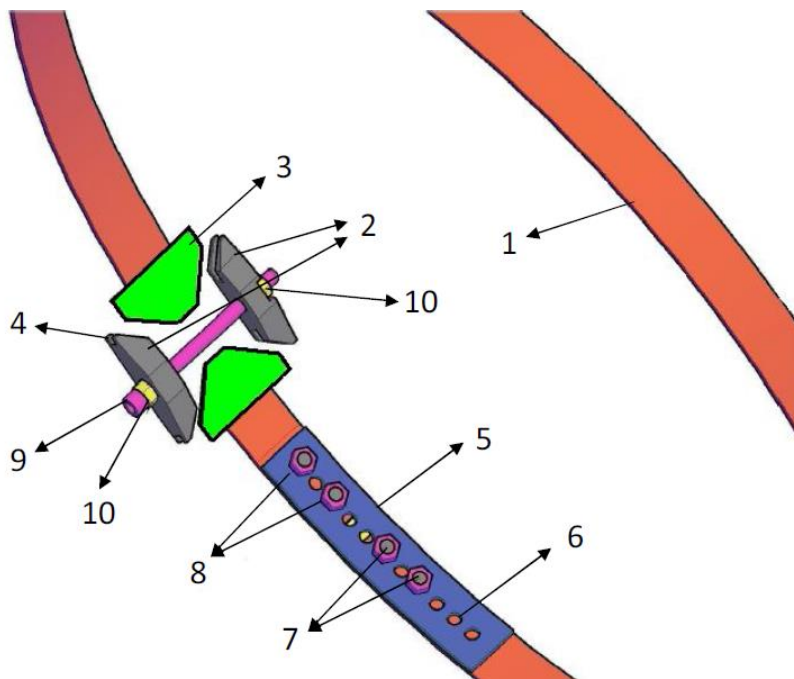


On this problem, excessive land sitting or landfall causes many damages at many point on the pipe.

Fast and easy pipe repair can be applied using more than one Borinline with the same methods.



## BORINLINE STEEL TENSE SYSTEM AND ADJUSTING PLATE



1- STEEL BAND

2- SWALLOW TIGHTENING KEYS

3- BUTTERFLY EXPANDER

4- SWALLOW SLOTTING

5- STEEL BAND ADJUSTMENT PLATE

6-ADJUSTMENT PLATE PIN HOLES

7- ADJUSTMENT PLATE DOWELS

8- PIVOT NUT

9-SWALLOW KEY PULLER BOLT

10- ASSEMBLE BOLT NUT