# REPORT

Contact person RISE
Olle Persson
Energy and circular economy
+46 10 516 59 67
olle.persson@ri.se

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Reference
7F011609-1



Repiper AB
Möbelgatan 1
431 33 Mölndal

# Tightness testing of metal banded flexible coupling, intended for relined pipes

## Test object
A metal banded flexible coupling of EPDM rubber and a plastic detail intended for relined pipes were tested.

## Delivery date
2017-05-15

## Dimensions and marking

The following test object was delivered to RISE:

| Dimension | Marking |
|---|---|
| 100-110/100-110 mm | 8027 EPDM ISO 681-1 17 04 |

The purpose of the coupling is to make a smooth transition between a relined pipe and an existing pipe. One plastic detail was also delivered which should be mounted on the relined pipe.

## Tests
The following tests were performed:

| Requirement described in EN 16397-1 clause | Test method described in EN 16397-1 clause | Characteristics |
|---|---|---|
| 5.4.2 | 6.1.2 | Internal pressure |
| 5.4.2 | 6.1.3 | Vacuum |
| 5.4.3 | 6.1.4 | Deflection test |

RISE Pipe Centre is not accredited for the tightness testing described in EN 16397-1:2014 clause 6. However, the testing is very similar to the testing described in EN 1053:1995 and EN 1054:1995 for which RISE Pipe Centre is accredited.

The plastic detail was mounted by RISE on a relined cast iron pipe and sealed with *Sikaflex*. The hose clamps was tightened to the prescribed tightening torque 5.5 Nm.

# TEST RESULTS

## Internal pressure

| Dimension | Medium | Internal pressure requirement bar | Testing time minutes | Pipes used for testing |
|---|---|---|---|---|
| 100-110/100-110 mm | Water | 1.0 | 15 | Cast iron Ø 100 mm<br>Plastic Ø 110 mm |

No leakage was observed during the test.

*Test method:* *EN 16397-1:2014, clause 6.1.2*
*Test temperature:* *23 ± 5 °C*
*Date of test:* *2017-05-18*

## Vacuum

| Dimension | Medium | Internal pressure requirement bar | Testing time minutes | Pipes used for testing |
|---|---|---|---|---|
| 100-110/100-110 mm | Water | -0.25 | 15 | Cast iron Ø 100 mm<br>Plastic Ø 110 mm |

No leakage was observed during the test.

*Test method:* *EN 16397-1:2014, clause 6.1.3*
*Test temperature:* *23 ± 5 °C*
*Date of test:* *2017-05-18*

## Deflection

| Dimension | Medium | Internal pressure requirement bar | Deflection degrees | Pipes used for testing |
|---|---|---|---|---|
| 100-110/100-110 mm | Water | 1.0 | 4.6 | Cast iron Ø 100 mm<br>Plastic Ø 110 mm |

No leakage was observed during the test.

*Test method:* *EN 16397-1:2014, clause 6.1.4*
*Test temperature:* *23 ± 5 °C*
*Date of test:* *2017-05-18*

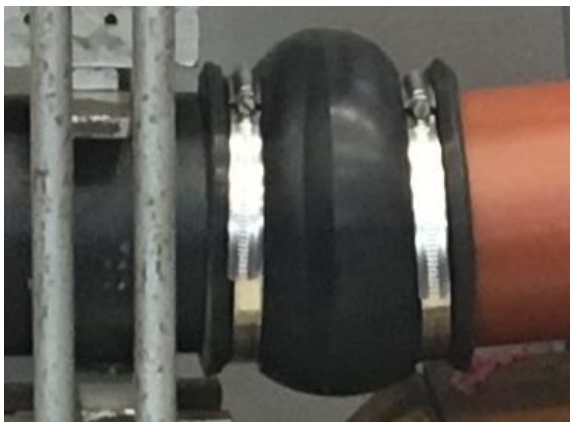

**Figure 1** The test object during the deflection test

## Conclusion

The results fulfil the requirements of the tested characteristics in EN 16397-1:2014, *Flexible couplings-Performance requirements.*

**RISE Research Institutes of Sweden AB**
**Energy and circular economy - Pipe Centre**

Performed by

Signed by: Olle Persson
Date & Time: 2017-06-12 08:49:19 +02:00

Olle Persson

Examined by

Signed by: Jan Henrik Sällström
Date & Time: 2017-06-12 10:31:44 +02:00

Jan Henrik Sällström