

## Product certificate K7347/08



Issued 2017-04-15  
Replaces K7347/07  
Page 1 of 4

### Flexible metallic pipes

#### STATEMENT BY KIWA

With this product certificate, issued in accordance with the Kiwa Regulations for Product Certification, Kiwa declares that legitimate confidence exists that the products supplied by

### Brugg Rohrsysteme GmbH

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline BRL-K780/04 "Flexible metallic pipes" dated 2003-01-15 inclusive amendment sheets dated 2010-10-01 and 2015-09-01.

Luc Leroy  
Kiwa

*Publication of this certificate is allowed.*

*Advice: consult [www.kiwa.nl](http://www.kiwa.nl) in order to ensure that this certificate is still valid.*

#### Kiwa Nederland B.V.

Sir Winston Churchilllaan 273  
Postbus 70  
2280 AB RIJSWIJK  
The Netherlands  
Tel. +31 88 998 44 00  
Fax +31 88 998 44 20  
info@kiwa.nl  
[www.kiwa.nl](http://www.kiwa.nl)

#### Company

Brugg Rohrsysteme GmbH  
Adolf-Oesterheldstrasse 31  
D-31515 WUNSTORF  
Germany  
Tel. 0049 5031-170 0  
Fax 0049 5031-170 170  
info@brugg.de  
[www.brugg.de](http://www.brugg.de)

#### Representative

Weijers Waalwijk B.V.  
Cartografenweg 14-a  
NL-5141 MT WAALWIJK  
The Netherlands  
Tel. +31 (0)416 - 34 07 55  
Fax +31 (0)416 - 65 11 27  
info@weijers-waalwijk.nl  
[www.weijers-waalwijk.nl](http://www.weijers-waalwijk.nl)

## Flexible metallic pipes

---

### TECHNICAL SPECIFICATION

**General:** Flexible Metallic Pipes for the transport of flammable and chemical fluids, in accordance with evaluation guideline BRL-K780/04 "Flexible Metallic Pipes" dated 2003-01-15

**Additional specification for flexible single walled metallic pipes:** Type Petrex CNT consists of stainless steel internal pipe with a PE cover.

Pressure range for underground application: -0.7 bar / +4 bar. Pressure range for above ground application: -0.7 bar / +2 bar.

Temperature range: limited to 60°C.

Diameters: Petrex CNT 22/31, Petrex CNT 30/39, Petrex CNT 48/60, Petrex CNT 60/71 and Petrex CNT 98/120.

**Additional specification for flexible double walled metallic pipes:** Type FSR consists of a stainless steel internal pipe and a secondary stainless steel pipe with a PE cover.

Pressure range for underground and above ground application: -0.7 bar (vacuum) / maximum pressure is indicated on the pipe.

Temperature range: -20°C / +60°C.

Diameters: FSR 13/25, FSR 30/48, FSR 39/60, FSR 48/71, FSR 60/83, FSR 75/107, FSR 83/120, FSR 98/134 en FSR 127/175.

**Additional specification for flexible single walled metallic pipes for LPG transport:** Type LPG consists of a stainless steel internal pipe with a wrapped steel band and a PE cover.

Pressure range for underground and above ground application: -0.7 bar (vacuum) / +25 bar.

Temperature range: -50°C / +60°C.

Diameters: LPG 22/33, LPG 30/40, LPG 39/50, LPG 48/61 and LPG 60/74.

**Additional specification for flexible double walled pipes, with a stainless steel internal pipe and a PE external pipe:** Type: SECON-X consists of a stainless steel internal pipe and a PE external pipe.

Pressure range for underground application: -0.7 bar (vacuum) / +3,5 bar.

Temperature range: -20°C / +60°C.

Diameters: SEC 30/44, SEC 48/63, SEC 60/75 en SEC 98/120.

**Connections, fittings etc.:** The relevant connections, fittings etc. are detailed in the attachment of this product certificate. This is a overview of the connections which belong to the above mentioned types of pipes. See previously issued product certificates for connections etc. which belong to types of pipes (for example copper pipes) which are not in production anymore.

### APPLICATION AND USE

The products are suitable for application for the transport of flammable fuels type K1, K2 and K3, compressed gasses (potentially in liquid form) like LPG, and all other liquids from which the suitability of the internal pipe is declared by the producer.

### MARKING

The products are marked with the Kiwa-mark. Method of marking: non erasable "Kiwa" "KK".

Location of the marking: On the outside of the pipe and on the main body of the connection.

Compulsory information:

Pipe: Diameter, type, name of manufacturer and maximum pressure.

Connection: Diameter and type.

### RECOMMENDATIONS FOR CUSTOMERS

Check at the time of delivery whether:

- the supplier has delivered in accordance with the agreement;
- the mark and the marking method are correct;
- the products show no visible defects as a result of transport etc.

If you should reject a product on the basis of the above, please contact:

- Supplier

and, if necessary,

- the mark and the marking method are correct; Kiwa Nederland B.V.

Consult the supplier's processing guidelines for the proper storage and transport methods.



Flexible metallic pipes

Arb. Page number:	Description:
FSR 4.201/05.12:	Standard-connection FSR 13/25 with cutting ring; Art.: 829.350.50
FSR 4.202/05.12:	Standard-connection FSR 13/25 GRAPA; Art.: 829.350.51
FSR 4.211/05.12:	Standard-connection (1.4404 or 14571) with loose steel flange, welded (TIG welding/hard soldering); Art.: 829.355.91; 829.356.91; 829.354.90; 829.357.91; 829.358.91; 829.359.91; 829.360.01; 829.360.91.
FSR 4.211/05.12:	Standard-connection (1.4404 or 14571) with shared loose steel flange, welded (TIG welding/hard soldering); Art.: 829.355.51; 829.356.51; 829.354.50; 829.357.51; 829.358.51; 829.359.51; 829.360.02; 829.360.51.
FSR 4.211/05.12:	Standard-connection (1.4539) with loose steel flange, welded (TIG welding/hard soldering); Art.: 829.345.91; 829.346.91; 829.457.01; 829.347.91.
FSR 4.211/05.12:	Standard-connection (1.4539) with shared loose steel flange, welded (TIG welding/hard soldering); Art.: 829.345.51; 829.346.51; 829.347.02; 829.347.51.
FSR 4.212/05.12:	Standard-connection (1.4404 of 1.4571) with shared loose flange (steel), welded (TIG welding/hard soldering); Art.: 829.358.53; 829.360.05.
FSR 4.212/05.12:	Standard-connection (1.4440) with shared loose flange (steel), welded (TIG welding/hard soldering); Art.: 829.358.54; 829.360.06.
FSR 4.216/05.12:	Standard-connection (1.4440 or 1.4571) with loose flange (steel) for leakdetection, part 1, welded (TIG welding/hard soldering); Art.: 829.481.95; 829.482.95; 829.483.95; 829.484.95; 829.485.05; 829.485.95; 829.486.05; 829.486.95.
FSR 4.216/05.12:	Standard-connection (1.44.40 or 1.4571) with shared loose flange (steel) for leakdetection, part 1, welded (TIG welding/hard soldering); Art.: 829.481.84; 829.482.84; 829.483.84; 829.484.84; 829.485.04; 829.485.84; 829.486.04; 829.486.84.
FSR 4.216/05.12:	Standard-connection (1.4539) with loose flange (steel) for leakdetection, part 1, welded (TIG welding/hard soldering); Art.: 829.481.97; 829.482.97; 829.483.97; 829.484.97.
FSR 4.216/05.12:	Standard-connection (1.4539) with shared loose flange (steel) for leakdetection, part 1, welded (TIG welding/hard soldering); Art.: 829.481.88; 829.482.88; 829.483.88; 829.484.88.
FSR 4.217/05.12:	Standard-connection (1.4404 or 1.4571) with loose flange (steel) for leakdetection, part 2, welded (TIG welding/hard soldering); Art.: 829.481.96; 829.482.96; 829.483.96; 829.484.96; 829.485.06; 829.485.96; 829.486.06; 829.486.96.
FSR 4.217/05.12:	Standard-connection (1.4404 or 1.4571) with shared loose flange (steel) for leakdetection, part 2, welded (TIG welding/hard soldering); Art.: 829.481.85; 829.482.85; 829.483.85; 829.484.85; 829.485.07; 829.485.85; 829.486.07; 829.486.85.
FSR 4.217/05.12:	Standard-connection (1.4539) with loose flange (steel) for leakdetection, part 2, welded (TIG welding/hard soldering); Art.: 829.481.98; 829.482.98; 829.483.98; 829.484.98.
FSR 4.217/05.12:	Standard-connection (1.4539) with shared loose flange (steel) for leakdetection, part 2, welded (TIG welding/hard soldering); Art.: 829.481.89; 829.482.89; 829.483.89; 829.484.89.
FSR 4.219/05.12:	Standard-connection with welding end (1.4404 or 1.4571), welded (TIG welding/hard soldering); Art.: 829.355.96; 829.356.96; 829.357.96; 829.358.96; 829.359.56; 829.359.96.
FSR 4.219/05.12:	Standard-connection with welding end (1.4539), welded (TIG welding/hard soldering); Art.: 829.345.31; 829.346.31; 829.347.21; 829.347.61.
FSR 4.221/05.12:	Standard-connection with thread (1.4404 or 1.4571), welded (TIG welding/hard soldering); Art.: 829.355.97; 829.356.97; 829.357.97; 829.358.97.
FSR 4.221/05.12:	Standard-connection with thread (1.4539), welded (TIG welding/hard soldering); Art.: 829.345.41; 829.346.41; 829.347.40; 829.347.41.
FSR 4.222/05.12:	Standard-connection GRAPA with welding end (1.4404/1.4301), pressed connection/external pipe hardsoldered; Art.: 829.355.72; 829.356.72; 829.357.72; 829.358.72; 829.358.55; 829.360.07.
FSR 4.223/05.12:	Standard-connection GRAPA with thread (1.4404/1.4301), pressed connection/external pipe hardsoldered; Art.: 829.355.73; 829.356.73; 829.357.73; 829.358.73; 829.358.56; 829.360.08.
FSR 4.223/05.12:	Standard-connection GRAPA with NPT thread (1.4404/1.4301), pressed connection/external pipe hardsoldered; Art.: 829.355.74; 829.356.74; 829.357.74; 829.358.74; 829.358.57; 829.360.09.
FSR 4.224/05.12:	Standard-connection GRAPA (1.4404/1.4301) with loose steel flange, pressed connection/external pipe hardsoldered; Art.: 829.355.75; 829.356.75; 829.357.75; 829.358.75; 829.358.58; 829.358.60; 829.360.10; 829.360.12.
FSR 4.224/05.12:	Standard-connection GRAPA (1.4404/1.4301) with loose stainless steel flange, pressed connection/external pipe hardsoldered; Art.: 829.355.76; 829.356.76; 829.357.76; 829.358.76; 829.358.59; 829.358.62; 829.360.11; 829.360.13.
FSR 4.230/05.12:	Standard-connection GRAPA with welding end (1.4404/1.4301), pressed- screw connection; Art.: 829.355.92; 829.356.92; 829.357.92; 829.358.92.
FSR 4.231/05.12:	Standard-connection GRAPA with thread (1.4404/1.4301), pressed- screw connection; Art.: 829.355.98; 829.356.98; 829.357.98; 829.358.98.
FSR 4.231/05.12:	Standard-connection GRAPA with NPT thread (1.4404/1.4301), pressed- screw connection; Art.: 829.365.98; 829.366.98; 829.367.98; 829.368.98.
FSR 4.232/05.12:	Standard-connection GRAPA (1.4404/1.4301) with loose steel flange, pressed- screw connection; Art.: 829.355.95; 829.356.95; 829.357.95; 829.358.95.
FSR 4.232/05.12:	Standard-connection GRAPA (1.4404 or 1.4571/1.4301) with loose stainless steel flange, pressed- screw

## Flexible metallic pipes

	connection; Art.: 829.355.85; 829.356.85; 829.357.85; 829.358.85.
FSR 4.401/05.12:	Standard-through connection with flange connection for leakdetection, welded (TIG welding/hard soldering); Art.: 829.491.91; 829.492.91; 829.493.91; 829.494.91; 829.495.51; 829.495.91; 829.496.51; 829.496.91.
FSR 4.403/05.12:	Standard-through connection with smooth internal and external pipe, welded (TIG welding/hard soldering); Art.: 829.350.49.
FSR 4.404/05.12:	Standard-through connection, welded (TIG welding/hard soldering); Art.: 829.403.90; 829.404.90; 829.405.50; 829.405.90; 829.406.50; 829.406.90; 829.407.50; 829.407.90.
FSR 4.405/05.12:	Standard-through connection GRAPA, pressed- screw connection; Art.: 829.355.77; 829.356.77; 829.357.77; 829.358.77.
FSR 4.406/05.12:	Standard-through connection GRAPA, cutting ring connections / graphite gasket; Art.: 829.350.53.
FSR 4.410/05.12:	Standard-curve with flange connection for leakdetection; Art.: 829.461.91; 829.462.91; 829.463.91 (+ DN); 829.465.91(+ DN); 829.466.91.
FSR 4.413/05.12:	Standard-curve, welded (TIG welding/hard soldering); Art.: 829.461.96; 829.462.96; 829.463.96; 829.464.96; 829.465.56; 829.465.96; 829.466.56; 829.466.96.
FSR 4.420/05.12:	Standard-T-joint with flange connection for leakdetection; Art.: 829.471.91; 829.472.91; 829.473.91 (+ DN); 829.475.91 (+ DN); 829.476.91.
FSR 4.421/05.12:	Welding neck flange for leakdetection; Art.: 829.491.96; 829.492.96; 829.494.96 (+ DN); 829.495.96 (+ DN); 829.496.96.
FSR 4.433/05.12:	Standard-T-joint welded (TIG welding/hard soldering); Art.: 829.471.96; 829.472.96; 829.473.96; 829.474.96; 829.475.66; 829.475.96; 829.476.56; 829.476.96.
LPG 5.201/11.12:	Mechanical connection with graphite gasket and carbon steel welding end; Art.: 711.011.54; 711.012.54; 711.013.54; 711.014.54; 711.015.54.
LPG 5.201/11.12:	Mechanical connection with graphite gasket and stainless steel welding end; Art.: 711.011.55; 711.012.55; 711.013.55; 711.014.55; 711.015.55.
LPG 5.211/11.12:	Mechanical connection with graphite gasket and NPT thread; Art.: 711.011.94; 711.012.94; 711.012.95; 711.013.94; 711.013.95; 711.014.94; 711.015.94.
LPG 5.221/11.12:	Mechanical connection with graphite gasket and shared flange in accordance with ANSI B 16.5; Art.: 711.011.31; 711.012.31; 711.013.31.
LPG 5.221/11.12:	Mechanical connection with graphite gasket and shared flange in accordance with EN 1092-1; Art.: 711.011.32; 711.012.32; 711.013.32; 711.014.32; 711.015.32.
LPG 5.401/11.12:	Mechanical connection screwed with graphite gasket; Art.: 711.012.00; 711.013.00; 711.014.00; 711.015.00; 711.016.00.
SECON - X SEC 5.01.15/12.14:	Connection with profile and O-ring gasket, screwed; Art.: 701.102.04; 701.102.03; 701.103.06; 701.104.14; 701.105.14.
SECON - X SEC 5.01.16/02.05:	Connection with loose flange; Art.: 701.103.02; 701.104.02.
SECON - X SEC 5.01.16/02.05:	Connection with shared loose flange; Art.: 701.103.03; 701.104.03.
SECON - X SEC 5.01.17/02.05:	Connection with BSP thread; Art.: 701.103.01; 701.104.01.
SECON - X SEC 5.01.17/02.05:	Connection with welding end; Art.: 701.103.00; 701.104.00.
SECON - X SEC 5.01.18/02.05:	End seal for monitoring area and (test) connection for leakdetection; Art.: 989.488.00; 989.488.01.
SECON - X SEC 5.01.21/11.12:	Connection for SECON - X 100; Art.: 703.303.06; 701.105.07; 701.303.05.
SECON - X SEC 5.02.01/08.12:	Standard-through connection, mechanical connection with graphite gasket; Art.: 701.401.01; 701.401.02.
SECON - X SEC 5.02.03/11.12:	Standard-through connection double walled, DN 100 short and long; Art.: 703.401.05.
SECON - X SEC 5.04.01/11.12:	Standard double walled T-joint with graphite gasket DN 40-40-40, DN 50-50-50, DN 50-40-50, DN 50-40-40; Art.: 989.493.02; 989.494.01; 989.495.01; 989.496.01; 701.501.05; 701.501.06.
SECON - X SEC 5.04.02/11.12:	Standard double walled T-joint with graphite gasket DN 80-50-80, DN 80-50-50; Art.: 989.498.02; 989.498.01; 701.501.07; 701.501.06.
PETREX CNT 5.01.02/06.12:	End connections with mechanical connection with graphite gasket, type with external thread; Art.: 703.202.01; 703.203.01; 703.204.01; 703.206.01.
PETREX CNT 5.01.02/06.12:	End connections with mechanical connection with graphite gasket, type with welding end; Art.: 703.203.00; 703.204.00.
PETREX CNT 5.01.02/06.12:	End connections with mechanical connection with graphite gasket, type with loose flange; Art.: 703.203.02; 703.204.02.
PETREX CNT 5.01.02/06.12:	End connections with mechanical connection with graphite gasket, type with shared loose flange; Art.: 703.202.03; 703.203.03; 703.204.03; 703.206.03.
PETREX CNT 5.02.01/08.12:	Standard-through connection, mechanical connections with graphite gasket; Art.: 728.054.06; 728.056.06; 728.057.06; 728.060.06.
PETREX CNT 5.04.01/08.12:	Standard T-joint, mechanical connection with graphite gasket; Art.: 703.300.01; 703.300.02; 703.300.03; 703.300.04.