

®



Product catalogue



Manufacture for
ecological sealants and
corrosion protection

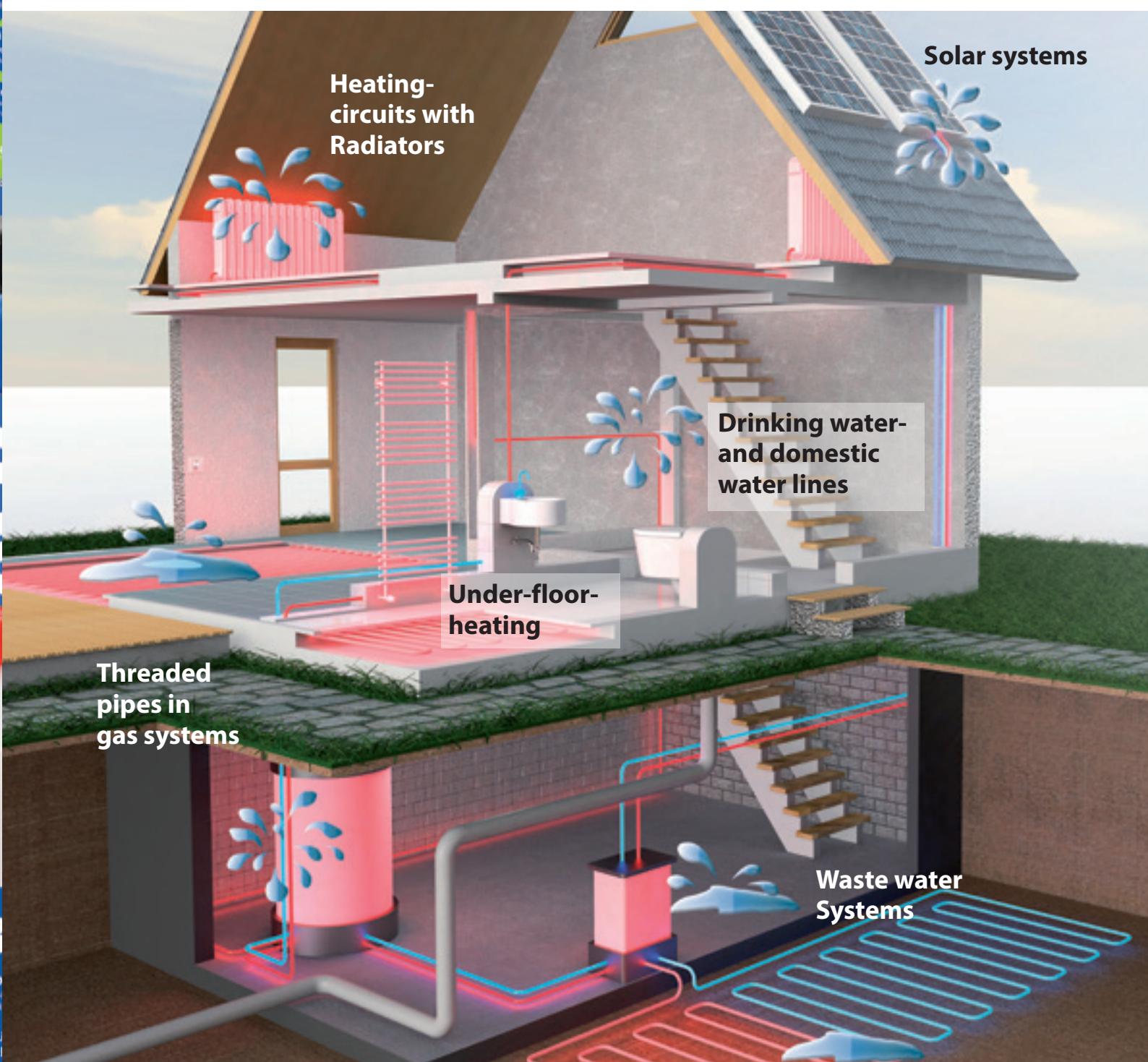
Valid from: 2017





In 1979 the company founder Wilhelm Klieboldt worked as a plumber in water treatment. A long-standing acquaintance with the plumbing business brought him to the idea of offering a liquid silicate heat sealing as a service. After successful testing of the right composition and a thorough test phase, the way was clear to use this innovation in the plumbing sector...

Today, after over 35 years, there is a special BCG sealant available for every leak



Good reasons for **BCG®** products:

- Made in Germany
- Many years of expertise
- In the market since 1979
- Full product range
- BCG® seals pipes made of all commonly used pipe materials
- Qualified service team
- Training at our premises and on site
- ISO 9001 certified



 **BaCoGa®**
TECHNIK GMBH

*Manufacture for
ecological sealants and
corrosion protection*

SEALING SYSTEMS FOR HEATING



For heating systems with water loss up to 30 litres per 24

BCG® 24

Page 12

Eliminates water loss in heating systems, boilers, pipelines, radiators, under-floor heating systems etc. with **up to 30 litres water loss per 24 hours** and seals all commonly available pipe materials (plastics and metals).



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres



For heating systems with water loss up to 400 litres per 24 hours

BCG® Spezial

Page 13

Eliminates water loss in heating systems, boilers, pipelines, radiators, under-floor heating systems etc. with **up to 400 litres water loss per 24 hours** and seals all commonly available pipe materials (plastics and metals).



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres



For heating systems with water loss up to 1000 litres per 24 hours

BCG® TD

Page 14

Eliminates water loss in heating systems, boilers, systems, pipe networks etc. with **up to 1000 litres water loss per 24 hours** and seals all commonly available pipe materials (plastics and metals).



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres



For heating systems with water loss above 1000 litres per 24 hours

BCG® TDS

Page 15

Eliminates extreme water loss in boilers, systems, pipe networks etc. with **above 1000 litres water loss per 24 hours** and seals all commonly available pipe materials (plastics and metals).



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres



For heating systems, with press fittings with up to 30 litres of water loss per 24 hours

BCG® 30 E

Page 16

Eliminates water loss of **up to 30 litres per 24 hours** in heating systems that are operated with oil or gas boilers, gas heaters or condensing boilers. BCG 30 must be used in systems with press fittings. BCG 30E forms an elastic seal of the leakage.



Mixing ratio	Pack sizes
1.0 litres to 100 litres of heating water	1.0 litres 2.5 litres 5.0 litres



For heating systems with frost protection/Brine with up to 20 litres of water loss per 24 hours

BCG® F

Page 17

Eliminates water loss **up to 20 litres per 24 hours** in heating systems, pipelines, radiators, and under-floor heating systems filled with antifreeze liquid or brine. Can also be used in earth collectors and solar systems. BCG F forms an elastic seal of the leakage.



Mixing ratio	Pack sizes
1.0 litres to 100 litres of heating water	1.0 litres 2.5 litres 5.0 litres

SEALING SYSTEMS FOR DRINKING AND DOMESTIC WATER



For systems with drinking and domestic water, with up to 10 litres of water loss per 24 hours

BCG® 84 L

Page 18

Eliminates water loss in drinking and domestic water pipes **up to 10 litres per 24 hours**. Especially suitable for pitting in copper pipes or small leaks in other materials.



Mixing ratio	Pack sizes
Puree or 1:1	5.0 litres 10.0 litres



For systems with drinking and domestic water, with pitting with up to 25 litres of water loss per 24 hours

BCG® 84

Page 19

Eliminates water loss in drinking and domestic water pipes **up to 25 litres per 24 hours**. Suitable for sealing pitting, cracks and leaks in copper, stainless steel, plastic and galvanised pipes.



Mixing ratio	Pack sizes
Puree or 1:1	5.0 litres 10.0 litres



For systems with drinking and domestic water, with up to 400 litres of water loss per 24 hours

BCG® 84 S

Page 20

Eliminates water loss in drinking and process water pipes **up to 400 litres per 24 hours**. Suitable for sealing cracks and leaks in copper, stainless steel, plastic and galvanised pipes.



Mixing ratio	Pack sizes
Puree or 1:1	5.0 litres 10.0 litres

SEALING SYSTEM FOR SWIMMING POOLS



Liquid sealant for swimming pools

BCG® 10 Pool

Page 21

Eliminates leaks in swimming pools. BCG 10 Pool seals concrete pools and segment pools and other hard walled pools. The appearance of the swimming pool remains unchanged.



Mixing ratio	Pack sizes
1 litre to 1000 litres of swimming pool water	5.0 litres 10.0 litres

SEALING SYSTEM FOR WASTE WATER PIPES (INDOOR)



Liquid sealant for waste water pipes indoors

BCG® Abfluss

Page 22

Eliminates water loss in internal drains. BCG drain can be used with all commonly used pipe materials (plastics, castings, clay, concrete, lead). Leaks on the pipe itself or on the joints can be sealed.



Mixing ratio	Pack sizes
1:5	5.0 litres 10.0 litres

BCG® CONTENTS

SEALING SYSTEM FOR SEWERS



Liquid sealant for underground conduits (sewer) (2-component system)

BCG® Kanal

Page 23

A two-component system for elimination of water loss in the sewer pipes (must be used together with BCG HC 60 / reaction accelerator). BCG Sewer and BCG HC 60 / reaction accelerator can be used with all commonly available materials for sewer pipes (plastic, cast, clay, concrete, lead).



Mixing ratio	Pack sizes
Pure	10.0 litres



Reaction accelerators for BCG Sewer (2-component system)

BCG® HC 60 reaction accelerator

Page 24

(Must only be used in connection with BCG Sewer).



Mixing ratio	Pack sizes
Pure	10.0 litres

CORROSION PROTECTION SYSTEM



Corrosion protection for heating systems as per VDI 2035 for systems with aluminium

BCG® K 32

Page 25

Protects especially plastic under-floor heating but also steel, aluminium and copper materials from corrosion through protective film formation. Prevents oxygen diffusion.



Mixing ratio	Pack sizes
1:100	2.5 litres 5.0 litres

FROST PROTECTION SYSTEM



Frost and rust protection for all systems

BCG® FS

Page 26

Protects heating- and cooling systems from frost-, rust- and corrosion damage. Also to be used in systems with heat pumps and under-floor heating systems. Protects heating systems from freezing.



Mixing ratio	Pack sizes
depending on the degree of protection required	5.0 litres 10.0 litres 30.0 litres

CLEANING SYSTEMS



Cleaning medium for solar systems

BCG® SOR

Page 27

Removes contaminations from solar systems, caused by thermal overloading of the heat transfer fluid in vacuum tube collectors.



Mixing ratio	Pack sizes
Pure or 1:1	10.0 litres

BCG® CONTENTS

CLEANING SYSTEMS



Heating cleaner for all heating systems (lime, rust, sediments)

BCG® HR

Page 28

Frees heating systems from lime scale, rust and sludge deposits and increases performance. BCG HR is used for cleaning when modernising a heating system and in old systems. BCG HR is suitable for all commonly available materials for pipes in heating systems (plastics and metals).



Mixing ratio	Pack sizes
1:100	5.0 litres



Cleaner for drinking water pipes (lime, rust)

BCG® R13

Page 29

For removing lime scale, rust and boiler stone in water systems. BCG R 13 is suitable for most materials such as steel, copper, brass and galvanised pipes.

Mixing ratio	Pack sizes
Pure or maximum 1 litre to 2 litres water	5.0 litres



SYSTEM ACCESSORIES



BCG® Test

Page 30

For measuring BCG K 32 (measurement of the molybdate content in the heating water / efficiency of BCG K32).



BCG® G 20 filling pump

Page 30

Pump for filling BCG products into closed water circuits, directly from the 5-litre or 10-litre disposable container.



BCG® G 21 J pressure container (with compressor connection)

Page 30

Stainless steel container for filling all BCG products with pressure gauge for container pressure. Filling funnel for rapid drip-free filling.

Fill volume 10.0 litres | pressure: max. 6 bar



GAS SEALING SYSTEM



Liquid sealant for sealing threaded joints with hemp in gas systems

BCG® Gas 2000

Page 32

Sealing liquid for the subsequent sealing of threaded joints with hemp in indoor gas pipes.

DIN DVGW: NG-5153BL0184

ÖVGW: G 2.662

SVGW: 15-027-7



Mixing ratio	Pack sizes
Pure	10.0 litres

BCG® CONTENTS

SYSTEM ACCESSORIES (FOR BCG® GAS 2000)



Gas complete kit

Consisting of the packages 1-5

Page 36



Package 1

Fill container complete

Page 36



Package 2

Membrane pump complete

Page 36



Package 3

Drying fan

Page 36



Package 4

Ventilation bucket (4 Pcs.)

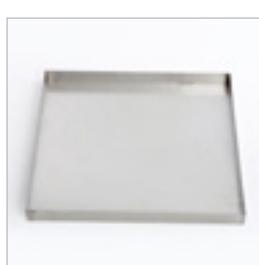
Page 36



Package 5

Transport box

Page 36



BCG® drip pan

For BCG® package 2 (membrane pump), BCG G 20 or BCG G 21 J
drip pan for collecting BCG sealants

Page 31

BCG® CONTENTS

SYSTEM ACCESSORIES (FOR BCG® GAS 2000)



BCG® cleaning balls range

20 mm ½" to 200 mm

Page 31

BCG® cleaning ball set

(10 Pcs, 2 of each ball: 20, 25, 30, 35 and 40 mm)
for removal of the residual product from the gas system



BCG® shut-off bladders

Reliable and fast shut-off for waste water and sewer pipes

Page 31



BCG® test plug

RTS 35 mm to RTS 100 mm
For the secure closing of pipes

Page 31

RENTAL UNITS



BCG® Heizboy

Heater unit for special application.
(Price on request)

Page 36



BCG® Gas-complete kit

Consisting of the packages 1-5
(Price on request)

Page 36

APPLICATION TRAINING



Gas training session or Training and instruction

Gas training session or Training and instruction by a technician for the application
of BCG equipment at your premises or in Galten at Unipak A/S.
(Price on request)

Page 32

Dirt-free sealing of pipes and ducts, without having to open the walls, the ceiling or the floor.

NO DUST, NO NOISE, NO STRESS.

„Clean work!“



Water damage in the building does not have to lead automatically to a large construction site. Our sealing process works with a crystal-based liquid product introduced into the pipe system. The leakage is sealed from the inside by the formation of silicon dioxide. **Reliable and lasting!**



For heating systems with water loss up to 30 litres per 24 hours

BCG® 24

BCG® 24 eliminates water loss in heating systems, boilers, pipelines, radiators, under-floor heating systems up to 30 litres per 24 hours.

Patent No. 4321629



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres

BCG® 24 seals all commonly used pipe materials (plastics and metals). BCG 24 crystallises in connection with air forming a mechanical seal of the leak. A sealing with BCG 24 is durable and resistant to ageing. BCG 24 can also be used in open systems. BCG 24 is introduced into the boiler using a filling pump (BCG G 20 or BCG G 21 J).

NOTE!

The heating system must be free from additives such as frost protection, corrosion protection and brine. **Use BCG 30 E if a gas boiler or condensing unit is connected to the system.** Proper use will not result in damage to pumps and control valves.

Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

ATTENTION!

New heating systems have only a low water content (if necessary, measure the water content manually).

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant). If there is aluminium as part of the heating system, it is necessary to empty the system after sealing, at the latest after 4 weeks. Then rinse the system thoroughly and refill as usual.

USER INSTRUCTIONS:

Leaky boiler:

The heating system is disconnected from the boiler and the boiler is brought up to operating temperature. The maximum temperature is set with the control button. Shaken the bottle with BCG 24 well. The required amount (see table page 39 - 41) is pumped in through the boiler fill and drain valve. The boiler is filled until achieving a pressure of 1 bar. The circulation pump purged thoroughly through control bolt. The boiler now have to stay in operation as described above for 4 hours. After sealing the boiler has to be emptied and flushed thoroughly with water. Fill the boiler again with clean water and the plant may be taken in operation again after the circulating pump is once again purged thoroughly.

Heating system leaking:

The heating system must be filled with water and purged. Set the maximum temperature with the boiler thermostat. Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the amount of heating water by the required quantity BCG 24 which has to be added to the system. Shake the BCG 24 canister well before use. Introduce the required quantity using the boiler fill and drain valve. Fill the heating system to operating pressure. Purge the circulation pumps again well via the control screw. The heating system must remain operational for 7 hours under the conditions above, without lowering circulation or temperature. The actual sealing takes place during 1 or more days. BCG 24 can remain in the system. The pH value must then be kept between 10.5 and 11.0. The pH-value must be checked annually. You can also choose to empty the system after approx. 4 weeks - and if there are aluminum parts in the system you must empty out the BCG 24. Empty the system totally and rinse thoroughly with clean water and refilled to normal operating pressure. The circulation pump has to be purged thoroughly again.

Remove BCG 24 immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

For district heating systems:

If the heating system runs on district heating it is necessary to determine in which part of the in-house-system the leak is located. A closed circulation over the part (circuit) with the leak is established and BCG 24 in the correct concentration (PH 10,5 – 11,0 see mixing ratio below) is added. Shake the container with BCG well before the product is mixed into the system water. Heating should be added to the circulating BCG mixture as it speeds up the sealing procedure. Circulation (with heating) over the circuit with the leakage should now be maintained under the described conditions until the leak is sealed - it typically takes 2 -3 days. After sealing, rinse the heating circuit thoroughly with several changes of water; fill the circuit with water again and connected the circuit to district heating system again. The equipment used for the sealing procedure - and especially the external circulation pump - also has to be rinsed thoroughly with several changes of water.

**Observe the usual precautions when handling chemicals!
Keep out of the reach of children!**

Disposal: see safety data sheet.

Mixing ratio: 1.5 litres to 100 litres of heating water.

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- | | |
|--|------------|
| · Technical Data Sheet No. 2 | Page 37 |
| · Calculation table | Page 39-41 |
| · Data sheet No. 6 (sealing of separate circuit) | Page 38 |



For heating systems with water loss up to 400 litres per 24 hours

BCG® Special

BCG® Special eliminates water loss in heating systems, boilers, pipelines, radiators, under-floor heating systems up to 400 litres per 24 hours.

Patent No. 4321629



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres

BCG® Special seals all commercial materials (plastics and metals). BCG Special crystallises in connection with air forming a mechanical seal of the leak. BCG Special sealing is durable and resistant to ageing. BCG Special can also be used in open systems. BCG Special is introduced into the boiler using a filling pump (BCG G 20 or BCG G 21J).

NOTE!

The heating system must be free from additives such as frost protection, corrosion protection and brine. **Use BCG 30 E if a gas boiler or condensing unit is connected to the system.** Proper use will not result in damage to pumps and control valves.

Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

ATTENTION!

New heating systems have only a low water content (if necessary, measure the water content manually).

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant). If there is aluminium as part of the heating system, it is necessary to empty the system after sealing, at the latest after 4 weeks. Then rinse the system thoroughly and refill as usual.

USER INSTRUCTIONS:

Leaky boiler:

The heating system is disconnected from the boiler and the boiler is brought up to operating temperature. The maximum temperature is set with the control button. Shaken the bottle with BCG Special well. The required amount (see table page 39 - 41) is pumped in through the boiler fill and drain valve. The boiler is filled until achieving a pressure of 1 bar. The circulation pump purged thoroughly through control bolt. The boiler now have to stay in operation as described above for 4 hours. After sealing the boiler has to be emptied and flushed thoroughly with water. Fill the boiler again with clean water and the plant may be taken in operation again after the circulating pump is once again purged thoroughly.

Heating system leaking:

The heating system must be filled with water and purged. Set the maximum temperature with the boiler thermostat. Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the amount of heating water by the required quantity BCG Special which has to be added to the system. Shake the BCG Special canister well before use. Introduce the required quantity using the boiler fill and drain valve. Fill the heating system to operating pressure. Purge the circulation pumps again well via the control screw. The heating system must remain operational for 7 hours under the conditions above, without lowering circulation or temperature. The actual sealing takes place during 1 or more days. BCG Special can remain in the system. The pH value must then be kept between 10.5 and 11.0. The pH-value must be checked annually.

You can also choose to empty the system after approx. 4 weeks - and if there are aluminum parts in the system you must empty out the BCG Special. Empty the system totally and rinse thoroughly with clean water and refilled to normal operating pressure. The circulation pump has to be purged thoroughly again

Remove BCG 24 immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

For district heating systems:

If the heating system runs on district heating it is necessary to determine in which part of the in-house-system the leak is located. A closed circulation over the part (circuit) with the leak is established and BCG Special in the correct concentration (PH 10,5 – 11,0 see mixing ratio below) is added. Shake the container with BCG well before the product is mixed into the system water. Heating should be added to the circulating BCG mixture as it speeds up the sealing procedure. Circulation (with heating) over the circuit with the leakage should now be maintained under the described conditions until the leak is sealed - it typically takes 2 -3 days. After sealing, rinse the heating circuit thoroughly with several changes of water; fill the circuit with water again and reconnected the circuit to district heating system. The equipment used for the sealing procedure - and especially the external circulation pump - also has to be rinsed thoroughly with several changes of water.

**Observe the usual precautions when handling chemicals!
Keep out of the reach of children!**

Disposal: see safety data sheet.

Mixing ratio: 1.5 litres to 100 litres of heating water.

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- | | |
|--|------------|
| · Technical Data Sheet No. 2 | Page 37 |
| · Calculation table | Page 39-41 |
| · Data sheet No. 6 (sealing of separate circuit) | Page 38 |



For heating systems with water loss between 400 and 1000 litres per 24 hours

BCG® TD

BCG® TD eliminates extreme water loss in boilers, pipelines and heating systems between 400 and 1000 litres per 24 hours.

Patent No. 4321629



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres

BCG® TD seals all commonly used pipe materials (plastics and metals). BCG TD crystallises in connection with air forming a mechanical seal of the leak. A sealing with BCG TD is durable and resistant to ageing. BCG TD can also be used in open systems. BCG TD is introduced into the boiler using a filling pump (BCG G 20 or BCG G 21 J). When BCG TD is used, clogging can occur in congestion (thermostatic valves, dirt traps).

NOTE!

The heating system must be free from additives such as frost protection, corrosion protection and brine. Use BCG 30 E if a gas boiler or condensing unit is connected to the system. Proper use will not result in damage to pumps and control valves. After sealing, empty the system and refill it or remove the increased fibre content.

Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

ATTENTION!

New heating systems have only a low water content (if necessary, measure the water content manually).

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

If there is aluminium as part of the heating system, it is necessary to empty the system after sealing, at the latest after 4 weeks. Then rinse the system thoroughly and refill as usual.

USER INSTRUCTIONS:

Leaky boiler:

The heating system is disconnected from the boiler and the boiler is brought up to operating temperature. The maximum temperature is set with the control button. Shaken the bottle with BCG TD well. The required amount (see table page 39 - 41) is pumped in through the boiler fill and drain valve. The boiler is filled until achieving a pressure of 1 bar. The circulation pump purged thoroughly through control bolt. The boiler now have to stay in operation as described above for 4 hours. After sealing the boiler has to be emptied and flushed thoroughly with water. Fill the boiler again with clean water and the plant may be taken in operation again after the circulating pump is once again purged thoroughly.

Heating system leaking:

Strainers, dirt traps, filters and heat quantity meters must be removed or bypassed. The heating system must be filled with water and purged.

Set the maximum temperature with the boiler thermostat. Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the amount of heating water by the required quantity BCG TD which has to be added to the system. Shake the BCG TD canister well before use. Introduce the required quantity using the boiler fill and drain valve. Fill the heating system to operating pressure. Purge the circulation pumps again well via the control screw. The heating system must remain operational for 7 hours under the conditions above, without lowering circulation or temperature. The actual sealing takes place during 1 or more days. After sealing, empty the system, rinse and refill or remove the increased fibre content from the system using a dirt trap. Then BCG TD can remain in the system. The pH-value must then be 10.5 – 11 and must be checked once a year.

For district heating systems:

If the heating system runs on district heating it is necessary to determine in which part of the in-house-system the leak is located. A closed circulation over the part (circuit) with the leak is established and BCG TD in the correct concentration (PH 10,5 – 11,0 see mixing ratio below) is

added. Shake the container with BCG well before the product is mixed into the system water. Heating should be added to the circulating BCG mixture as it speeds up the sealing procedure. Circulation (with heating) over the circuit with the leakage should now be maintained under the described conditions until the leak is sealed - it typically takes 2 - 3 days. After sealing, rinse the heating circuit thoroughly with several changes of water; fill the circuit with water again and reconnected the circuit to district heating system. The equipment used for the sealing procedure - and especially the external circulation pump - also has to be rinsed thoroughly with several changes of water.

Remove BCG TD immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

**Observe the usual precautions when handling chemicals!
Keep out of the reach of children!**

Disposal: see safety data sheet.

For further details, please refer to our Safety Data Sheets.

Mixing ratio: 1.5 litres to 100 litres of heating system water.

Control option: With the correct dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

Suitability for storage: from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- | | |
|--|------------|
| • Technical Data Sheet No. 2 | Page 37 |
| • Calculation table | Page 39-41 |
| • Data sheet No. 6 (sealing of separate circuit) | Page 38 |



For heating systems with water loss above 1000 litres per 24 hours

BCG® TDS

BCG® TDS eliminates extreme water loss in boilers, pipelines and heating systems above 1000 litres per 24 hours.

Patent No. 4321629



Mixing ratio	Pack sizes
1.5 litres to 100 litres of heating water	2.5 litres 5.0 litres 10.0 litres

BCG® TDS seals all commonly used pipe materials (plastics and metals). BCG TDS crystallises in connection with air forming a mechanical seal of the leak. A sealing with BCG TDS is durable and resistant to ageing. BCG TDS can also be used in open systems. BCG TDS is introduced into the boiler using a filling pump (BCG G 20 or BCG G 21 J). When BCG TDS is used, clogging can occur in congestion (thermostatic valves, dirt traps).

NOTE!

The heating system must be free from additives such as frost protection, corrosion protection and brine. Use BCG 30 E if a gas boiler or condensing unit is connected to the system. Proper use will not result in damage to pumps and control valves. After sealing, empty the system and refill it or remove the increased fibre content.

Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

ATTENTION!

New heating systems have only a low water content (if necessary, measure the water content manually).

Control option: With the right dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

If there is aluminium as part of the heating system, it is necessary to empty the system after sealing, at the latest after 4 weeks. Then rinse the system thoroughly and refill as usual.

USER INSTRUCTIONS:

Leaky boiler:

The heating system is disconnected from the boiler and the boiler is brought up to operating temperature. The maximum temperature is set with the control button. Shaken the bottle with BCG TDS well. The required amount (see table page 39 - 41) is pumped in through the boiler fill and drain valve. The boiler is filled until achieving a pressure of 1 bar. The circulation pump purged thoroughly through control bolt. The boiler now have to stay in operation as described above for 4 hours. After sealing the boiler has to be emptied and flushed thoroughly with water. Fill the boiler again with clean water and the plant may be taken in operation again after the circulating pump is once again purged thoroughly.

Heating system leaking:

Strainers, dirt traps, filters and heat quantity meters must be removed or bypassed. The heating system must be filled with water and purged.

Set the maximum temperature with the boiler thermostat. Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the amount of heating water by the required quantity BCG TDS which has to be added to the system. Shake the BCG TDS canister well before use. Introduce the required quantity using the boiler fill and drain valve. Fill the heating system to operating pressure. Purge the circulation pumps again well via the control screw. The heating system must remain operational for 7 hours under the conditions above, without lowering circulation or temperature. The actual sealing takes place during 1 or more days. After sealing, empty the system, rinse and refill or remove the increased fibre content from the system using a dirt trap. Then BCG TD can remain in the system. The pH-value must then be 10.5 – 11 and must be checked once a year.

For district heating systems:

If the heating system runs on district heating it is necessary to determine in which part of the in-house-system the leak is located. A closed circulation over the part (circuit) with the leak is estab-

lished and BCG TDS in the correct concentration (PH 10,5 – 11,0 see mixing ratio below) is added. Shake the container with BCG well before the product is mixed into the system water. Heating should be added to the circulating BCG mixture as it speeds up the sealing procedure. Circulation (with heating) over the circuit with the leakage should now be maintained under the described conditions until the leak is sealed - it typically takes 2 -3 days. After sealing, rinse the heating circuit thoroughly with several changes of water; fill the circuit with water again and reconnected the circuit to district heating system. The equipment used for the sealing procedure - and especially the external circulation pump - also has to be rinsed thoroughly with several changes of water.

Remove BCG TDS immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Observe the usual precautions when handling chemicals!

Keep out of the reach of children!

Disposal:

see safety data sheet.
For further details, please refer to our Safety Data Sheets.

Mixing ratio: 1.5 litres to 100 litres of heating system water.

Control option: With the correct dose, the pH-value is between 10.5 and 11. No solubility through other chemicals (temperature and pressure resistant).

Suitability for storage: from date of manufacture 5 years, protect from frost.

Our information corresponds to our current experiences.

Technical changes reserved.

INFORMATION

- Technical Data Sheet No. 2 Page 37
- Calculation table Page 39-41
- Data sheet No. 6 (sealing of separate circuit) Page 38



Elastic sealant for Heating Systems with press fittings and up to 30 litres of water loss per 24

BCG® 30 E

BCG® 30 E eliminates water loss of up to 30 litres per 24 hours in heating systems that are operated with oil, gas boilers, gas heaters or condensing boilers. BCG 30 E must be used in systems with press fittings.



Mixing ratio	Pack sizes
1.0 litres to 100 litres of heating water (an inadequate dose reduces effectiveness)	1.0 litres 2.5 litres 5.0 litres

BCG® 30 E seals all commonly used pipe materials (plastics, metals, press fittings, floor-heating systems). BCG 30 E forms an elastic seal of the leakage. Eliminates water loss up to 30 litres per 24 hours. BCG 30 E must remain in the system (long-term effect)! The sealing is durable and resistant to ageing. BCG 30 E is introduced into the heating circuit using a filling pump (BCG G 20 or BCG G 21J).

NOTE!

Proper use will not result in damage to pumps and control valves. For leaks in combustion chambers, please use BCG 24, BCG Special or BCG TD.

Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

USER INSTRUCTIONS:

Heating system leaking:

Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the heating water by the required quantity BCG 30 E. Shake the BCG 30 E canister well. The required quantity BCG 30 E (see table) is introduced diluted using the boiler fill and drain valve. Empty and rinse the canister so that the residual product is used. The heating system must remain operational for 7 hours, with full circulation and heating on. The actual sealing takes on 1 or several days depending on the nature of the leakage. BCG 30 E must remain in the system!

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1 litre BCG 30 E to 100 litres of heating water.
An inadequate dose reduces effectiveness

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

· Calculation table

Page 39-41



Elastic sealant for heating systems with frost protection/Brine and up to 20 litres of water loss per 24

BCG® F

BCG® F liquid sealant eliminates water loss up to 20 litres per 24 hours in heating systems, pipelines, radiators and under-floor heating systems filled with antifreeze liquid or brine. Can also be used in earth collectors and solar systems. BCG F forms an elastic seal at the leakage.



Mixing ratio	Pack sizes
1.0 litres to 100 litres of heating water (an inadequate dose reduces effectiveness)	1.0 litres 2.5 litres 5.0 litres

BCG® F seals all commonly used pipe materials (plastics, metals, press fittings, floor-heating systems). Can also be used in earth collectors and solar systems. BCG F forms an elastic seal at the leakage point. Eliminates water loss up to 20 litres per 24 hours. Can be used in systems filled with frost protection.

BCG F seals permanently and is resistant to ageing. BCG F can be used with solar collectors and earth collectors.

BCG F is introduced into the heating circuit using a filling pump (BCG G 20 or BCG G 21J).
BCG F must remain in the system!

NOTE!

Proper use will not result in damage to pumps and control valves. Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

USER INSTRUCTIONS:

Heating system leaking:

The heating system must be filled with water and purged. Open all mixer and heater valves fully. Purge circulation pumps and leave running. Reduce the system water by the required quantity BCG F. Shake the BCG F canister well. The required quantity BCG F (see table) is introduced diluted using the boiler fill and drain valve. Empty and rinse the canister so that the residual product is used. Purge the circulation pumps again well via the control screw. The heating system must remain operational for 7 hours with full circulation and heating on.

The actual sealing takes on 1 or several days depending on the nature of the leakage. BCG F must remain in the system!

Other systems, e.g. earth collectors:

It is important that the product, BCG F, is pre-mixed with water or brine and introduced into the system after the heat exchanger. The product can then dilute and mix in the plant and is thus not pumped concentrated or pure through the heat exchanger.

BCG F for leaking solar and earth collectors:

The BCG F is pre-mixed with system water with glycol / brine in the above-mentioned systems. Take 5-10 L of system water with antifreeze liquid, then mix BCG F until no residues are left in the BCG F canister. Stir the BCG and system water mixture well. Then the mixture is introduced into the return (after the heat exchanger). The circulation pump must then run for 2 hours. The system is brought to normal operating pressure and normal operating temperature. No temperature increase is required. The sealing can thus take 2-3 days. BCG F must remain in the system! There is no damage to the system or the pump when properly used.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1 litre BCG F to 100 litres of heating water.
An inadequate dose reduces the effectiveness.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

· Calculation table

Page 39-41



Liquid sealant for drinking- and domestic water, with pitting up to 10 litres of water loss per 24

BCG® 84 L

BCG® 84 L liquid sealant eliminates water loss in drinking- and domestic water pipes up to 10 litres daily. Especially with pitting in copper pipes or small leaks in other materials. BCG 84 L crystallises in connection with air. A mechanical seal of the leak occurs. BCG 84 L sealing is durable and resistant to ageing.

Patent-No. 4342861



Mixing ratio	Pack sizes
Pure or mixed 1:1 with water	5.0 litres 10.0 litres

IMPORTANT!

The sealants BCG 84, BCG 84 S, BCG 84 L may be used in the food area (= drinking water).

ATTENTION!

No solubility through other chemicals. Temperature and pressure-resistant.

USER INSTRUCTIONS:

Disconnect and drain the leaking drinking water pipe. Collect and measure the contents so you know how much BCG 84 L you need to fill the pipe. Close valves and fittings, remove if necessary. It may also be necessary to build in shut-off valves (DIN 1988). Aerators, sieves, filters and water meters must be removed (install fitting pieces).

Blow out the leaking pipe with compressed air. Close the end of the drinking water pipe so that the air emerges at the leakage point and blows the leak point water-free. Shake the BCG 84 L canister well. Fill the required quantity BCG 84 L pure or diluted 1:1 with water into the drinking water pipe with a discharge pump (without suction strainer) or with the pressure tank BCG G 21J. Purge the drinking water pipe well.

Pressurise the drinking water pipe (5-7 bar). BCG 84 L must exit at the leakage so that it can crystallise outside the pipe. BCG 84 L requires a contact time of at least 2 days (48 hours). In very wet conditions the exposure time has to be extended to 4 to 5 days. Since no air can reach the leakage in a plastic-sheathed tube, sealing may only take place in this case to a limited extent. Blow out BCG 84 L after sealing and thoroughly rinse the drinking water pipe with pure water. Re-connect the drinking water pipe to the drinking water system. The warm water boiler must be shut off before sealing. Thoroughly flush the tools after use.

The product can be re-used.

IMPORTANT!

Remove BCG 84 L immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

Pure or mixed 1:1 with water. No solubility through other chemicals. Temperature-resistant Pressure-resistant.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 3
- Calculation table

Page 37
Page 39-41



Liquid sealant for drinking- and domestic water, with pitting up to 25 litres of water loss per 24

BCG® 84

BCG® 84 liquid sealant eliminates water loss in drinking- and domestic water pipes up to 25 litres per 24 hours. It is possible to seal pitting, cracks and leaks in copper, stainless steel, plastic and galvanised pipes. BCG 84 crystallises in connection with air. A mechanical seal of the leak occurs.

BCG 84 sealing is durable and resistant to ageing.

Patent No. 4342861



Mixing ratio	Pack sizes
Pure or mixed 1:1 with water	5.0 litres 10.0 litres

IMPORTANT!

The sealants BCG 84, BCG 84 S, BCG 84 L may be used in the food area (= drinking water).

ATTENTION!

No solubility through other chemicals. Temperature and pressure-resistant.

USER INSTRUCTIONS:

Disconnect and drain the leaking drinking water pipe. Collect and measure the contents so you know how much BCG 84 you need to fill the pipe. Close valves and fittings, remove if necessary. It may also be necessary to build in shut-off valves (DIN 1988). Aerators, sieves, filters and water meters must be removed (install fitting pieces).

Blow out the leaking pipe with compressed air. Close the end of the drinking water pipe so that the air emerges at the leakage point and blows the leak point water-free. Shake the BCG 84 canister well. Fill the required quantity BCG 84 pure diluted 1:1 with water into the drinking water pipe with a discharge pump (without suction strainer) or with the pressure tank BCG G 21J. Purge the drinking water pipe well.

Pressurise the drinking water pipe (5-7 bar). BCG 84 must exit at the leakage so that it can crystallise outside the pipe. BCG 84 requires a contact time of at least 2 days (48 hours). In very wet conditions, the exposure time has to be extended to 4 to 5 days. Since no air can reach the leakage in a plastic-sheathed tube, sealing may only take place in this case to a limited extent. Blow out BCG 84 after sealing and thoroughly rinse the drinking water pipe with pure water. Re-connect the drinking water pipe to the drinking water system. The warm water boiler must be shut off before sealing. Thoroughly flush the tools after use.

The product can be re-used.

Domestic water storage tanks can be sealed if air reaches the leak point from the outside (mixing ratio 1: 100). We recommend cleaning the domestic water tank before sealing.

IMPORTANT!

Remove BCG 84 immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

Pure or mixed 1:1 with water. No solubility through other chemicals. Temperature-resistant Pressure-resistant.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

Our information corresponds to our current experiences.

Technical changes reserved.



INFORMATION

- Technical Data Sheet No. 3
- Calculation table

Page 37
Page 39-41



Liquid sealant for drinking- and domestic water, with pitting up to 400 litres of water loss per 24

BCG® 84 S

BCG® 84 S liquid sealant eliminates water loss in drinking- and domestic water pipes up to 400 litres per 24 hours. BCG 84 S crystallises in connection with air. A mechanical seal of the leak occurs. BCG 84 S sealing is durable and resistant to ageing.

Patent-No. 4342861



Mixing ratio	Pack sizes
Pure or mixed 1:1 with water	5.0 litres 10.0 litres

IMPORTANT!

The sealants BCG 84, BCG 84 S, BCG 84 L may be used in the food area (= drinking water).

ATTENTION!

No solubility through other chemicals. Temperature and pressure-resistant.

USER INSTRUCTIONS:

Disconnect and drain the leaking drinking water pipe. Collect and measure the contents so you know how much BCG 84 S you need to fill the pipe. Close valves and fittings, remove if necessary. It may also be necessary to build in shut-off valves (DIN 1988). Aerators, sieves, filters and water meters must be removed (install fitting pieces).

Blow out the leaking pipe with compressed air. Close the end of the drinking water pipe so that the air emerges at the leakage point and blows the leak point water-free. Shake the BCG 84 S canister well. Fill the required quantity BCG 84 S pure or diluted 1:1 with water into the drinking water pipe with a discharge pump (without suction strainer) or with the pressure tank BCG G 21J. Purge the drinking water pipe well.

Pressurise the drinking water pipe (5-7 bar). BCG 84 S must exit at the leakage so that it can crystallise outside the pipe. BCG 84 S requires a contact time of at least 2 days (48 hours). In very wet conditions, the exposure time has to be extended to 4 to 5 days. Since no air can reach the leakage in a plastic-sheathed tube, sealing may only take place in this case to a limited extent. Blow out BCG 84 S after sealing and thoroughly rinse the drinking water pipe with pure water. Re-connect the drinking water pipe to the drinking water system. The warm water boiler must be shut off before sealing. Thoroughly flush the tools after use.

The product can be re-used.

IMPORTANT!

Remove BCG 84 S immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

Pure or mixed 1:1 with water. No solubility through other chemicals. Temperature-resistant Pressure-resistant.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 3
- Calculation table

Page 37
Page 39-41

BCG® SEALING SYSTEM FOR SWIMMING POOLS



Liquid sealant for swimming pools

BCG® 10 Pool

BCG® 10 Pool eliminates leaks in swimming pools.



Mixing ratio	Pack sizes
1 litre to 1000 litres of swimming pool water	5.0 litres 10.0 litres

NOTE!

BCG 10 Pool seals hard walled pools like concrete pools and segment pools. The appearance of the swimming pool remains unchanged.

IMPORTANT!

After seismic shocks (earthquakes) or subsequent movement in the foundation, the swimming pool may leak again. Do not use with a water hardness of more than 25° (German hardness).

USER INSTRUCTIONS:

Shut off or switch off circulation pump and filter. Add the appropriate amount of BCG 10 pool into the pool. Remove the BCG 10 Pool concentrate immediately from objects outside the pool (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Create a circulation without filter in the pool. This can be done using a groundwater / dirty water pump, which is placed in the pool. Let the circulation run for 1-3 days until the swimming pool is sealed. Then drain the pool and remove the product residues from the surface and tiles.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1:1000 = 1 litre BCG 10 Pool to 1000 litres of swimming pool water.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*



BCG® SEALING SYSTEM FOR WASTE WATER (INDOOR)



Liquid sealant for waste water pipes indoors

BCG® Drain

BCG® Drain liquid sealant eliminates water loss in internal drains. BCG drain can be used with all commonly used materials for drain pipes (plastics, castings, clay, concrete, lead). Leaks on the pipe itself or on joints can be sealed.



Mixing ratio	Pack sizes
1.0 litres to 5 litres of water (an inadequate dose reduces effectiveness)	5.0 litres 10.0 litres

BCG® Drain crystallises in connection with air. A mechanical seal of the leak occurs. The BCG Drain sealing is durable and resistant to ageing.

NOTE!

Before sealing with BCG Drain, we recommend thorough cleaning in the case of heavily polluted (greasy) pipes. For buried sewer pipes, please use BCG Sewer and BCG HC 60 (2 components).

USER INSTRUCTIONS:

Before using BCG Drain, shut off the pipe and fill with water as a test to find out how big the water loss is. There may be a lot of liquid leaking when filling. Mix BCG Drain with water and introduce into the defective system. The mixture should remain in the system for 1 to 2 days, depending on the leakage size and wetness of the area around the leak.

For shutting off the drainpipe, use BCG shut-off bladders and stopper plugs.

Maximum water losses:

The water loss quantity shall not exceed 70% of the volume of the pipe section to be sealed within 15 minutes.

IMPORTANT!

Remove BCG Drain immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and cannot be removed.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1 litre BCG Drain to 5 litres of water.
An inadequate dose reduces effectiveness

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 4
- Calculation table

Page 38
Page 41

BCG® SEALING SYSTEM FOR SEWER



Liquid sealant for underground sewer pipes (2-component system)

BCG® Sewer

BCG® Sewer liquid sealant is a two-component system for elimination of water loss in sewer pipes (**must be used together with BCG HC 60 / reaction accelerator**). BCG Sewer and BCG HC 60 / reaction accelerator can be used with all commonly available materials for sewer pipes (plastic, cast, clay, concrete, lead).



Mixing ratio	Pack sizes
Pure	10.0 litres

Leaks on the pipe itself or on sleeve joints can be sealed. BCG Sewer crystallizes in conjunction with the reaction accelerator BCG HC 60 on the pipe and outside the pipe. A mechanical seal of the leak occurs. The sealing with BCG Sewer and BCG HC 60 / reaction accelerator is permanent and ageing-resistant.

NOTE!

Before sealing with BCG Sewer, the pipe must be thoroughly cleaned.
BCG Sewer and BCG HC 60 reaction accelerator must not be mixed together.
BCG Sewer and BCG HC 60 can be re-used.

USER INSTRUCTIONS:

Before using BCG Sewer, shut off the sewer pipe and fill with water as a test to find out how big the water loss is.

Hereafter the cleaned sewer pipe is blocked (BCG stop-off bladder, stopper plugs, etc.). Use a suitable pump to pump the BCG Sewer (without a reaction accelerator) into the leaking sewer pipe. Leave the BCG Sewer in the line for approx. 1 hour. Re-drain the BCG Sewer completely from the Sewer line and rinse the pump. Immediately hereafter pump the reaction accelerator BCG HC 60 into the sewer line. Leave the also the BCG HC60 in the line for approx. 1 hour.

Pump out the reaction accelerator BCG HC 60 again, drain the sewer pipe completely and rinse the pump. Carry out the aforementioned procedure a second time.

If no more HC 60 is consumed in the second process, the line is sealed. Otherwise the whole procedure has to be repeated. Normally, however, two processes are sufficient to ensure a successful seal. Mechanically remove any product residue.

The load test with pressure can be carried out after 12-24 hours of curing of the seal.

Maximum water losses:

The water loss quantity shall not exceed 70% of the volume of the pipe sections to be sealed within 15 minutes.

IMPORTANT!

Remove BCG Sewer immediately from objects (tiles, sinks, etc.) with water, otherwise crystallisation will take place and can not be removed.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

pure

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

· Calculation table

Page 41

BCG® SEALING SYSTEM FOR SEWER



Liquid sealant for underground sewer pipes (2-component system)

BCG® HC 60 reaction accelerator

(only use in connection with BCG Sewer).



Mixing ratio	Pack sizes
Pure	10.0 litres

BCG® HC60 reaction accelerator is part of a two-component system for elimination of water loss in sewer pipes (must be used together with BCG Sewer). BCG Sewer and BCG HC 60 / reaction accelerator can be used with all commonly available materials for sewer pipes (plastic, cast, clay, concrete, lead).

Leaks on the pipe itself or on sleeve joints can be sealed. BCG Sewer crystallizes in conjunction with the reaction accelerator BCG HC 60 on the pipe and outside the pipe. A mechanical seal of the leak occurs. The sealing with BCG Sewer and BCG HC 60 reaction accelerator is permanent and ageing-resistant.

NOTE!

Before sealing with BCG Sewer, the pipe must be thoroughly cleaned.

BCG Sewer and BCG HC 60 reaction accelerator must not be mixed together.

BCG Sewer and BCG HC 60 can be re-used.

USER INSTRUCTIONS:

Before using BCG Sewer, shut off the sewer pipe and fill with water as a test to find out how big the water loss is.

Hereafter the cleaned sewer pipe is blocked (BCG stop-off bladder, stopper plugs, etc.). Use a suitable pump to pump the BCG Sewer (without a reaction accelerator) into the leaking sewer pipe. Leave the BCG Sewer in the line for approx. 1 hour. Re-drain the BCG Sewer completely from the Sewer line and rinse the pump. Immediately hereafter, pump the reaction accelerator BCG HC 60 into the sewer line. Leave the also the BCG HC60 in the line for approx. 1 hour.

Pump out the reaction accelerator BCG HC 60 again, drain the sewer pipe completely and rinse the pump. Carry out the aforementioned procedure a second time.

If no more HC 60 is consumed in the second process, the line is sealed. Otherwise the whole procedure has to be repeated. Normally, however, two processes are sufficient to ensure a successful seal. Mechanically remove any product residue.

The load test with pressure can be carried out after 12-24 hours of curing of the seal.

Observe the usual precautions when handling chemicals.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

pure

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Calculation table

Page 41



Corrosion protection according to VDI 2035 for heating systems with aluminium

BCG® K 32

Protects by means of protective film formation, particularly plastic under-floor heating systems but protects also steel, aluminium and copper materials against corrosion.
Prevents oxygen diffusion.



Mixing ratio	Pack sizes
1:100	2.5 litres 5.0 litres

The dispersant component in the BCG K 32 prevents lime scale deposits on the pipe walls and thus guarantees the formation of an excellent corrosion protection film. Protects against lime scale deposits.

BCG K 32 inhibitor keeps control and regulating devices as well as pipes free from suspended solids. Protects all new and already operating heating systems. BCG K 32 keeps lime scale in solution.

NOTE!

The heating system must be free from additives such as sealants and other inhibitors. The inhibited system must be checked once a year.

Proper use will not result in damage to pumps and control valves. Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

USER INSTRUCTIONS:

Thoroughly rinse heavily polluted systems (DIN 1988, 2 bar) and, if necessary, clean with BCG HR. Check the contents by emptying the heating system via a water meter. Re-fill the system with water. Then introduce the required quantity BCG K 32 with a filling pump (BCG G 20 or BCG G 21J) into the system. Then fill the system with water and purge the system.

BCG K 32 is compatible with all commercially available antifreeze liquids.

IMPORTANT!

The efficacy of BCG K 32 must be checked approx. 1 hour after having been mixed into the system water using the BCG test. The molybdate content should be from 250 to 400 mg / l Mo. Since BCG K 32 dissolves already existing lime scale deposits, the heating system should be thoroughly rinsed/flushed after 1-3 months if the heat transfer in the system is reduced. A sludge trap and magnetic filter should be installed in old large-scale systems. Re-fill the system with BCG K 32 and check the concentration.

Observe the usual precautions when handling chemicals!

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1 litre BCG K 32 inhibitor to 100 litres of heating water.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 1
- Calculation table

Page 37
Page 39-41

BCG® FROST PROTECTION SYSTEM



Frost and rust protection for all systems

BCG® FS

protects heating- and cooling systems from frost-, rust- and corrosion damage.
Can also be used in systems with heat pumps, underfloor heating systems and solar systems.



Mixing ratio	Pack sizes
Depending on the degree of protection required	5.0 litres 10.0 litres 30.0 litres

Protects heating systems from freezing. BCG FS is a high-quality product mixture for safe protection against frost and rust damage. BCG FS contains propylene glycol.

NOTE!

The heating system must be free from additives such as sealants, corrosion protection and other frost protection. Proper use will not result in damage to pumps and control valves.
Before using the product, we recommend rinsing the system thoroughly to remove deposits and impurities.

USER INSTRUCTIONS:

Check the contents by emptying the heating system via a water meter. Half re-fill the system with water. Then introduce the required quantity BCG FS with a filling pump (e.g. BCG G 20 or BCG G 21J) into the system. Then fill the system with water and purge thoroughly. The frost protection content must be checked after several hours of circulation using the BCG frost protection testers. It is recommended to check the frost protection level on an annual basis and, if necessary, to top it up. The tester is used to determine the propylene glycol content.

Observe the usual precautions when handling chemicals!

Avoid contact with the eyes and skin and wear goggles.

Keep out of the reach of children!

Disposal:

see safety data sheet.

Suitability for storage:

from date of manufacture 5 years.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

· Calculation table

Page 41

MIXING RATIO:

Water content of the heating system	Amount of system water to discharge	Amount of BCG FS to fill in.	Protection up to
100 litres	- 12 litres	+ 12 litres	- 3°C
100 litres	- 18 litres	+ 18 litres	- 6°C
100 litres	- 25 litres	+ 25 litres	- 10°C
100 litres	- 32 litres	+ 32 litres	- 15°C
100 litres	- 40 litres	+ 40 litres	- 20°C



Cleaning fluid for thermal solar systems

BCG® SOR

Removes contaminations from solar systems which have been caused by thermal overloading of the heat transfer fluid in vacuum tube collectors.



Mixing ratio	Pack sizes
Pure	10.0 litres

Prior to cleaning the solar system with BCG SOR, the system must first be emptied completely in order to achieve the best cleaning result. If BCG SOR is diluted by heat transfer medium or water, the cleaning effect of the product will be decreased.

Furthermore, the collectors must be covered before starting the cleaning process. The system is then filled with BCG SOR and the medium is circulated at 50-60 ° C. for about 1-2 hours. With regard to the elastomer materials used in solar systems, such as EPDM, higher temperatures must be avoided. Depending on the degree of contamination, the process may have to be repeated several times. After the cleaning has been completed, the system has to be emptied as completely as possible. Any residual product remaining in the system must be blown out using compressed air.

Protection measures BCG SOR:

When handling BCG SOR, the precautions and workplace safety precautions necessary for the handling of chemicals, as well as the information contained in the safety data sheet, are to be carefully observed.

Ensure good ventilation!

No smoking!

Safety notices:

Observe the usual precautions when handling chemicals!

Use rubber gloves and goggles; avoid contact with skin and eyes!

Keep out of the reach of children!

Mixing ratio:

pure

Suitability for storage:

from date of manufacture 5 years.

Disposal:

Any residues, which can not be recycled, must undergo special treatment, in accordance with local regulations, e.g. incineration in an approved facility.

After spillage or leakage, BCG SOR shall be collected and appropriately disposed of with appropriate material.

*Our information corresponds to our current experiences.
Technical changes reserved.*





Heating cleaner for all heating systems (lime, rust, sediments)

BCG® HR

BCG® HR frees heating systems from lime scale, rust and sludge deposits and increases performance. BCG HR is used for cleaning when modernising a heating system and in old systems.



Mixing ratio	Pack sizes
1:100	5.0 litres

BCG® HR is suitable for all commonly available materials for pipes in heating systems (plastics and metals).

NOTE!

The heating system must be free from additives such as frost protection, corrosion protection, sealants and brine. Proper use will not result in damage to pumps and control valves. When lime scale deposits are dissolved, gas may occur. Please ensure the heating system is sufficiently ventilated!

Only the professional user.

USER INSTRUCTIONS:

Before cleaning with BCG HR, flush out heavily polluted heating water and replace with fresh water. All valves that regulate the heating circuit must be fully opened.

BCG HR is added in the indicated ratio and the circulation pump is switched on to achieve optimum mixing and cleaning. The reaction time is from 2 to 4 days at a heating temperature not exceeding 60 °.

After having gone through the cleaning process, the heating system has to be completely emptied. The heating system should be flushed with water. A sludge trap should be installed in old large-scale systems. BCG HR can also be concentrated higher in under-floor heating systems with low flow rates.

In order to best protect the cleaned heating system, BCG K 32 or BCG FS can subsequently be filled into the system.

IMPORTANT!

Remove BCG HR immediately from objects, etc. with water.
The heating cleaner must not be filled in the heating system along with BCG sealing products.

Observe the usual precautions when handling chemicals!

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

1 litres to 100 litres of heating water.

Suitability for storage:

from date of manufacture 5 years, protect from frost, store cool and away from light.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 1
- Calculation table

Page 37
Page 39-41



Cleaner for drinking water pipes (lime, rust)

BCG® R13

Cleaning concentrate used for removing lime scale, rust and boiler stone in water systems. BCG R 13 is suitable for most materials such as steel, copper, brass and galvanised pipes. BCG 13 can also be used in under-floor heating systems with low circulation.



Mixing ratio	Pack sizes
Pure or maximum 1 : 2 litres water	5.0 litres

The reliable BCG R 13 cleaning technology:

The chemical cleaning of water and heating systems for the removal of lime, boiler scale and rust with BCG R 13 is the safe and fast method to restore the full function of a system. BCG R 13 is suitable for all water systems, such as cleaning of drinking water pipes, heat exchangers, water heaters, boilers / instantaneous water heaters, cooling systems and cooling towers.

Application area for BCG R 13:

BCG R 13 is used as a cleaning fluid in a circulation process for all water systems which are calcified and / or rusted. BCG R 13 is suitable for most materials such as steel, copper, brass and galvanised material. BCG R 13 contains a high proportion of inhibitors, which protect the material against corrosion during cleaning. BCG R 13 is also a suitable means for cleaning pumps and valves.

USER INSTRUCTIONS:

Features:

BCG® R 13 is a water-miscible, slightly foaming liquid with a pH value of ≤ 0.5 . BCG R 13 dissolves rust, lime and boiler scale. The cleaning rate increases when the BCG R 13 solution is warmed up. However, the solution temperature should not exceed 50° C.

Instructions for use:

BCG R 13 can be diluted with up to 2 parts of water (1 part BCG R 13 and 2 parts water). The solution is circulated through the system which has to be cleaned. The pH of the diluted solution is ≤ 1 . During the cleaning process, BCG R 13 is consumed and the pH value increases. At a pH of 6, BCG R 13 is practically totally consumed.

When cleaning valves, pump parts, etc. the parts are placed in a 50% solution of BCG R 13. With heavily calcified systems, cleaning may take several hours.

Check:

BCG R 13 is consumed during the cleaning process and the pH value increases. The pH indicator sticks supplied are used to check the residual effectiveness. If, during the check, the BCG R 13 solution is totally consumed, and you measure a pH value of 6, although crusts are still present, a fresh solution must be added after draining the used solution. After the crusts have been removed or softened, the used solution is removed. Before the used solution is added to the waste water, it must be heavily diluted with water. The cleaned system is then rinsed several times with plenty of water. In order to neutralise acid residues in the system, the addition of 0.2% soda is recommended for the

penultimate rinse. The final rinse is done only with water. It is recommended to fill the cleaned system as quickly as possible with water in order to avoid corrosion by air.

Observe the usual precautions when handling chemicals!

Keep out of the reach of children!

Disposal:

see safety data sheet.

Mixing ratio:

BCG R 13 can be used pure or diluted with maximum 2 parts water.

Suitability for storage:

from date of manufacture 5 years, protect from frost.

*Our information corresponds to our current experiences.
Technical changes reserved.*

INFORMATION

- Technical Data Sheet No. 1
- Calculation table

Page 37
Page 39-41



BCG® Test

for measuring BCG K 32 (measurement of the molybdate content in the heating water / efficiency of BCG K32).



BCG® G 20 filling pump

Pump for filling BCG products into closed water circuits, directly from the 5-litre or 10-litre disposable container.

Application:

1. Prepare a 10-litre bucket with water.
2. Approx. 10 litres more than the quantity to be filled must be drained from the heating water beforehand.
3. Shake product container until the BCG product is well mixed.
4. Place the filling pump in the canister or in an empty bucket and connect the pressure hose to the boiler fill and drain valve.
5. Open the boiler tap and slowly pump the required quantity of product into the heating system.
6. Once the prescribed quantity has been filled, the filling pump is placed in the bucket provided and the water is pressed into the heating system until the product residue from the pressure hose is pumped into the heating system and the pressure gauge shows the required pressure.
7. Close the boiler fill and drain valve, release pressure hose. Caution! The pressure hose is filled with water.
8. Flush the BCG filling pump with clean water.

With BCG Gas 2000, please use the BCG Gas complete kit!



BCG® G 21 J pressure container (with compressor connection)

for filling all BCG products. Container made of stainless steel, pressure gauge for container pressure. Filling funnel for rapid drip-free filling.

Fill volume 10 litres | pressure: max. 6 bar

Application:

Create a connection the pressure container and the system which has to be filled (hose)
Close the boiler fill and drain valve. Fill container with BCG product (max. 10 l) and put container under pressure (5 bar).

Open the the boiler fill and drain valve and insert the BCG product into the system.

Create operating pressure with compressed air.

Heating system 1.5 – 2 bar, drinking water pipes 6 bar, gas pipes 4 bar.

Please follow instructions and notes on the respective BCG products!

After use, rinse pressure container and hose well with water.

Technical changes reserved!



BCG® drip pan

for BCG package 2 (membrane pump), BCG G 20 or BCG G 21 J.
Drip pan for collecting BCG sealants



BCG® cleaning ball range

20 mm 1/2" to 200 mm

BCG® cleaning ball set

(10 pcs, 2 balls of each size: 20, 25, 30, 35 and 40 mm)
The cleaning balls are used for clean removal of residual product from typical gas systems



BCG® shut-off bladders

TB1 / ø 30 mm to TB 58 / ø 150-200 mm

The reliable and fast shut-off for waste water and sewer pipes



TB (ø = 30 mm)



TB 122 (ø = 31 - 50 mm)



TB 3 (ø = 50 - 80 mm)



TB 34 (ø = 75 - 100 mm)



TB 46 (ø = 100 - 150 mm)



TB 58 (ø = 125 - 200 mm)



BCG® test plug

RTS 35 mm to RTS 100 mm for secure closing of pipes



DN 35



DN 42



DN 50



DN 75



DN 100



Liquid sealant for sealing gas pipes with threaded joints with hemp

BCG® Gas 2000

Sealing liquid for the subsequent sealing of threaded joints with hemp in gas inner ducts. BCG Gas 2000 is a plastic-solvent mixture. Steel pipes with threaded joints with hemp can be sealed.



Mixing ratio	Pack sizes
Pure	10.0 litres

DIN DVGW Registration number ÖVGW Registration number SVGW Registration number
NG-5153BL0184 G 2.662 15-027-7

USER INSTRUCTIONS:

In the case of mixed installations, galvanised materials, copper, plastic and press fittings, BCG Gas 2000 does not attack the plastic seals. BCG Gas 2000 may also be passed through pressed pipes.

Processing: The requirements of the DVGW work sheet G 624 "Subsequent sealing of gas lines with threaded connections" are applied for the processing. Ensure sufficient ventilation.



1. Determine the gas leakage quantity based on DVGW TRGI 2008

BCG Gas 2000 can be used with reduced usability. Reduced usability is given when the gas leak quantity is between 1 and less 5 litres per hour at the operating pressure.

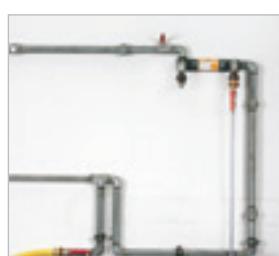


2. Checking the gas line

Remove gas counter and dismantle all gas devices. Fit shut-off valves on all line endpoints. Shut-off plugs on blind pipes still under gas pressure must also be removed and replaced by shut-off valves. Make sure the shut-off valves are firmly secured to the gas line. Carry out load test as per G 624 (3 bar for 3 -5 minutes)



3. Re-determine the gas leak quantity based on DVGW TRGI 2008 (as in 1.)



4. Cleaning the line

To clean the internal gas lines of dust, rust and scale, a reinforced pressure hose, which ends in a dust filter, preferably in the open air, is connected at the lowest point of the line where the gas meter is located. The gas pipes are blow out with compressed air or an inert gas.

BCG® GAS SEALING SYSTEM

FILLING THE LEAKING GAS PIPES

Shake canister with BCG Gas 2000 well before use!

To fill the leaky gas pipes, provide a compressor with a capacity of at least 250 l / min or 1 bottle of e.g. nitrogen.

1. The line is filled slowly from the lowest point below the lowest shut-off valve. A membrane pump that can be operated with nitrogen or compressed air is used for filling. Make sure there is sufficient BCG Gas 2000.

2. The gas pipe system must be carefully purged from the lowest to the highest, most remote shut-off valve installed in place of the gas appliances. The end of hoses from the shut-off valves are placed in the ventilation buckets to catch residue BCG Gas 2000 when purging.



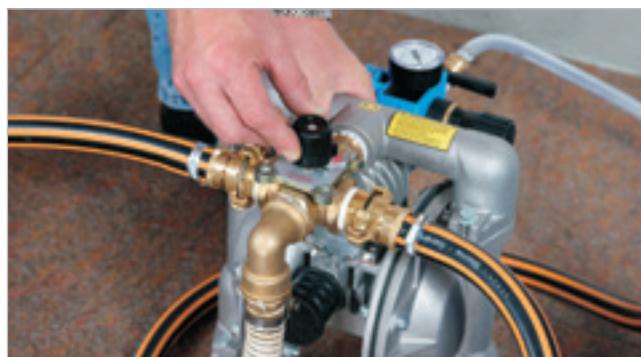
3. After proper filling, the line must be charged with 4 bar plus 1 bar per 10 m height of the installation to be sealed. As a result, the sealant is pressed into the leaking threaded connections. The BCG Gas 2000 has to be kept under pressure in the gas system in this way for min. 30 minutes.

4. In order to be able to use the filling device together with the pressure pump during the 30-minute operating period, it is permissible to connect a nitrogen pressure pad of 1-2 L volume (max. 4 bar) at the high point of the line to maintain the pressure.



EMPTYING THE LINE

The filling pressure under which the line stands, is carefully relaxed. The line is then emptied via the lowest point below the lowest shut-off valve. For this purpose, all the shot-off valves are opened from the top to the lowest shut-off valve.



Change the membrane pump on the four-way mixer from "pump" to "suction".

CLEANING WITH CLEANING BALLS

IMPORTANT: Disconnect the ventilation buckets and the purging hoses from the shut-off valves before cleaning the gas-system with the cleaning balls!

If no sealant runs out of the line, each line is now cleaned by means of shooting through a sponge rubber ball with a diameter at least 10% larger than the line cross section. The sponge balls are introduced at the shut-off valve points and are forced through the line with nitrogen or compressed air starting at the highest shut-off valve. The balls push the remaining sealant in front of them and transport it back into the filling container. The cleaning with the sponge balls must be done at least twice so that excess product residues are removed. Depending on the circumstances - the cleaning process may also have to be repeated more times.

The product can be re-used.

Contaminated product can be cleaned by a sieve.



DRYING

The drying is done using a drying fan. To do this, the ventilation buckets and hoses are reconnected to the shut-off valves. Make sure the purging hoses are secured in the ventilation buckets so that the product does not contaminate the environment. The drying fan must be set up free so that the drying air can be sucked in unhindered. If the performance drops, clean the filter.

The drying time should be about 1 hour and is designed for a pipe length of 25 m to 1". Gas lines with larger nominal widths require a longer drying time.

The new drying fan reduces the drying time by heating the airflow. Even after drying BCG Gas 2000 remains viscous in the threads. A leak test based on DVGW-TRGI 2008 must then be carried out.

ATTENTION!

BCG Gas 2000 dries quickly. Cleaning is possible with water within half an hour. BCG gas 2000 starting to dry can be removed with solvent.

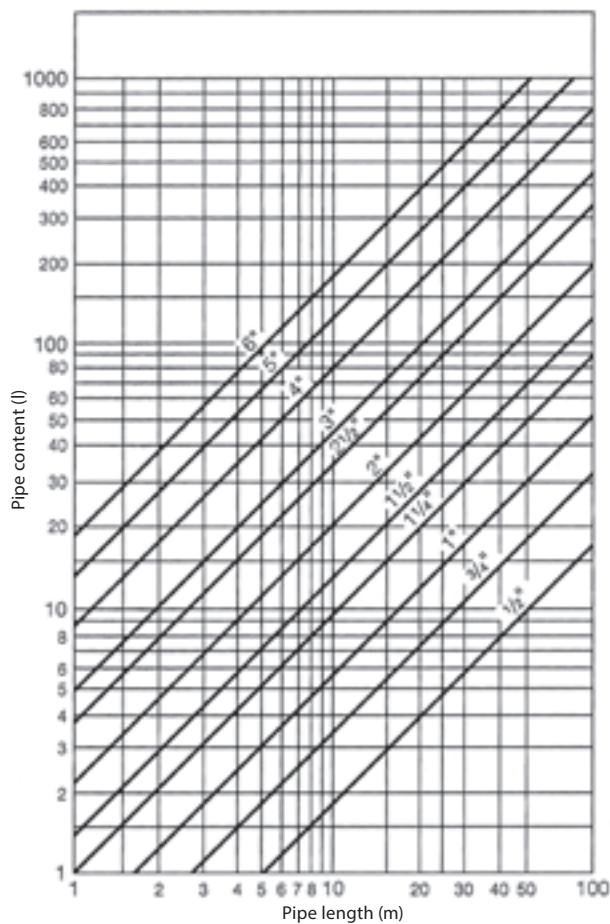


STARTING UP THE GAS INSTALLATION:

After a successful leak test, the line system may now be put into operation based on DVGW-TRGI 2008. Please follow the documentation on quality assurance.



PIPE CONTENT OF THREADED PIPE



BCG® SPECIAL ACCESSORIES:



BCG® cleaning ball range
in the sizes of
20 mm to 200 mm
Cleaning balls for removing the
residual product from the gas line
system



BCG® drip pan
for BCG gas package 2 (membrane
pump complete)
and BCG G 20 or BCG G 21 J

Please order an additional 10 litres
BCG Gas 2000 for the equipment
and hoses!

SAFETY DATA OF BCG GAS 2000:

Observe the usual precautions
when handling chemicals!

- Keep out of the reach of children!
- Must not be mixed with other gas sealants!
- Short drying time
- Exposure time: 30 minutes
- 10-litre pack
- storables for 2 years



According to DVGW TRGI 2008
house owners should have their gas pipelines checked every
twelve years for suitability for use or leakage!

Training sessions will be arranged at our premises or on the
working site. The certificate obtained in this way is valid as a
certificate of competence in accordance with DVGW worksheet
G 624!

Please contact us for more information on this.

Your BaCoGa team

Gas complete kit

consisting of: Package 1-5



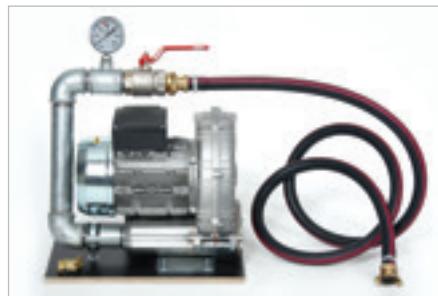
Accessories pack 1

Filling container complete



Accessories pack 2

Membrane pump complete



Accessories pack 3

Drying fan



Accessories pack 4

Ventilation bucket (4 No.)



Accessories pack 5

Transport box



TECHNICAL DATA SHEET NO. 1

Cleaning under-floor heating

1. Flush with water line for line.
2. Fill BCG HR in the ratio of 1 l BCG HR to 100 l of heating water.
Operate the heating system at maximum 60 °C for 3 days.
3. Empty the system and rinse line by line.
4. Then fill BCG K 32 in the ratio 1 l BCG K 32 to 100 l of heating water.
5. Check with BCG test.
6. After 6-8 weeks, check the water again and check for contamination.
7. BCG K 32 removes any remaining impurities and lime scale. This can settle in the boiler and lead to reduced heat transfer (boiler damage).
8. If necessary, rinse the system once again.
9. Then fill again with BCG K 32 and test.
10. Should heat transfer problems occur, clean the boiler separately with BCG HR.
11. With heavy contamination with scale and rust, concentrate BCG HR higher.

TECHNICAL DATA SHEET NO. 2

Sealing a leaking heating system

Detecting a leak:

1. Check pressure gauge. Filling the heating system twice a year is normal. If it has to be filled several times, there is a leak.
2. Water under the boiler. Water in the cold boiler
3. Dripping pipe
4. Wet stains on the floor
5. Check expansion vessel and visual inspection of the heating system.

Pump the sealant into the heating system:

1. Determine water content as per calculation table on Pages 39-41.
2. Calculate sealant based on water content. 1.5 l to 100 l heating water, at BCG 24/Special/TD/TDS.
All others 1 l to 100 l heating water.
3. Drain approx. 20 l heating water out of the system and collect.
4. Shake sealant and introduce with:
 - a. BCG G 20 or BCG G 21 J with compressed air
 - b. Plastic drilling machine with hose
 - c. Discharge pump (remove the suction filter from this!)
5. Open heater valves and mixer devices fully.
6. Fill the heating system up again to operating pressure.
Top up with the collected water if necessary.

Cleaning:

1. **IMPORTANT!** Rinse circulation pumps at the bleed screw and measure the pH value
(10.5-11 pH). (With BCG 24 / Special / TD / TDS)

TECHNICAL DATA SHEET NO. 3

Sealing a drinking water line

1. Detecting stains on wall, ceiling and floor, indicating a leakage.
2. Test with a discharge pump to see if the hot or cold water pipe is leaky and measure the water loss (discharge pump or water meter).
3. Drain the line and measure the content. Blow out with compressed air.
4. Close the line ends so that the leak is blown free of water (about 15 minutes).
5. Fill with the BCG G 21 J pressure container and BCG 84 L, 84 or 84 S pure. Bleeding at the tap valves and fittings. Remove the aerators and wipe off any excess sealant immediately. If necessary, disconnect the pipeline and install a shut-off valves.
6. Put pressure on the system at 5-7 bar with BCG G 21 J Pressure container with compressed air.
7. Leave for 3 days.
8. Drain and recollect BCG 84 L, 84 or 84 S and rinse the line with water. Keep rinsing until the pH-value corresponds to that of drinking water pH 7-7.5.
9. Re-fit all connections.

TECHNICAL DATA SHEET NO. 4

Sealing of internal drains pipes in an apartment

1. Clean with high-pressure jet (Kärcher).
2. Shut-off with BCG shut-off bladder.
3. Water loss test with water. The water loss volume should not exceed 70% of the line section to be sealed within 15 minutes.
4. Fill the drain lines with BCG drain.
Mixing ratio up to 1:5. Leave in for at least 1 day.
5. Drain by opening the BCG shut-off bladder.
6. Rinse with water
7. Install disconnected equipment.

TECHNICAL DATA SHEET NO. 5

Sealing of sewer pipes as per DIN 1986-3

1. Clean with high-pressure cleaner (Kärcher).
2. Shut-off with BCGI shut-off bladders and test for water loss. The water level should be 2 m above the lowest apex of the pipes.
The water loss quantity shall not exceed 70 % of the volume of the pipe section to be sealed within 15 minutes.
3. Use an inspection camera to determine leak site.
4. Insert hoses for both components as far as to the BCG shut-off bladder.
5. Pump in BCG Sewer (the first component).
Leave the product in the sewer line for 1 hour.
6. Pump out the BCG Sewer.
7. Open and close the shut-off bladder to divert the rest of BCG drain and close again.
8. Fill in the second component BCG HC 60.
Also leave this in the sewer tube for 1 hour.
9. Pump out the BCG HC60.
10. Open shut-off bladder to divert the rest of BCG HC 60
11. Close shut-off bladder.
12. Fill with BCG Sewer again.
Leave in the product for 1 hour.
13. Pump out the BCG Sewer.
14. Open the shut-off bladder and close again to divert the rest of BCG Sewer.
15. Fill the sewer line with BCG HC 60.
Leave it in for 1 hour.
16. Pump out the BCG HC60.
17. Open shut-off bladder to divert the rest of BCG HC 60
18. Rinse sewer pipe with water.
19. Close shut-off bladder.
20. Pressure test as per DIN 1610 after allowing the product to cure for 12 -24 hours.

TECHNICAL DATA SHEET NO. 6

Sealing of individual pipe strands in a heating system

Floor heating pipes or rising strands can be sealed separately. The leaking pipe (do a pressure test beforehand) is connected to the BCG Heizboy. In this way, the sealant BCG 24 or BCG Special is circulated in a heated circuit. Leave on the circulation and the heating for at least 2 days with normal operating pressure. The system is then drained, rinsed, filled with heating water and put back into operation.

Mixing ratio:

1.5 L BCG to 100 litres of heating water.

IMPORTANT:

The above procedure does not work with press fittings!!!

In pressed lines, the defective strand can be cut off and separated with a heat exchanger. In this separate line section, the leak can be permanently sealed with BCG 30 E or BCG F. In pressed systems, the sealants must remain in the system!

Mixing ratio:

1 L BCG F or BCG 30E to 100 litres of heating water.



BCG® CALCULATING THE CONTENT QUANTITIES

CAST IRON RADIATORS

HK height (mm)	HK depth (mm)	HK links	Multiplier (Litre)	Volume (Litre)
280	250	x	0,9	=
430	70	x	0,4	=
	110	x	0,6	=
	160	x	0,8	=
	220	x	1,1	=
	70	x	0,5	=
580	110	x	0,8	=
	160	x	1,1	=
	220	x	1,3	=
	680	x	1,2	=
980	70	x	0,8	=
	160	x	1,5	=
	220	x	1,9	=
Sub-total:				

PANEL RADIATOR

HK height (mm)	Type	HK length (m)	Multiplier (Litre)	Volume (Litre)
350	10	x	2,7	=
	11	x	2,7	=
	21	x	5,4	=
	22	x	5,4	=
	33	x	8,1	=
500	10	x	3,5	=
	11	x	3,5	=
	21	x	7,0	=
	22	x	7,0	=
	33	x	10,5	=
600	10	x	4,0	=
	11	x	4,0	=
	21	x	8,1	=
	22	x	8,1	=
	33	x	12,1	=
900	10	x	5,6	=
	11	x	5,6	=
	21	x	11,3	=
	22	x	11,3	=
	33	x	16,9	=
Sub-total 1:				

Under-floor heating:

Pure under-floor heating with no radiators
per 100 m² living area = approx. 150 litres of heating water.

Sub-total 1+2 transfer:

STEEL RADIATORS

HK height (mm)	HK depth (mm)	HK links	Multiplier (Litre)	Volume (Litre)
300	160	x	0,8	=
	250	x	1,0	=
450	110	x	0,8	=
	160	x	1,0	=
600	220	x	1,2	=
	110	x	0,9	=
1000	160	x	1,2	=
	220	x	2,4	=
Sub-total 2:				

PIPES

Pipe nominal width DN	Pipe nominal width (Inch)	Pipe length (m)	Multiplier (Litre)	Volume (Litre)
10	3/8 "	x	0,12	=
15	1/2 "	x	0,20	=
20	3/4 "	x	0,37	=
25	1 "	x	0,58	=
32	1 1/4 "	x	1,02	=
40	1 1/2 "	x	1,38	=
50	2 "	x	2,21	=
65	2 1/2 "	x	3,74	=
80	3 "	x	5,15	=
100	4 "	x	8,76	=

CU pipe line	Pipe length (m)	Multiplier (Litre)	Volume (Litre)
10 x 1,0	x	0,05	=
12 x 1,0	x	0,08	=
15 x 1,0	x	0,13	=
18 x 1,0	x	0,20	=
22 x 1,0	x	0,31	=
28 x 1,5	x	0,49	=
Sub-total:			
Total			
+ heating boiler contents and expansion vessel			
= total content			

Total content 100 = result

Result x 1,5 = for sealant BCG 24/Special/TD/TDS =

The pH value for the above products must be pH 10,5 - 11

Result x 1 = for sealant for BCG 30 E/F/HR/K 32 = average amount

You can download an Excel sheet for calculating and entering the values free of charge on our website at www.unipak.dk.

DOSING INSTRUCTIONS

The dosage for the heating system can, if not known, be determined from the table below. New heating systems have only a low water content (if necessary, meter out manually).

Control option: With the right dose, the pH-value is between 10.5 and 11.

For conventional heating systems: Systems with mostly:

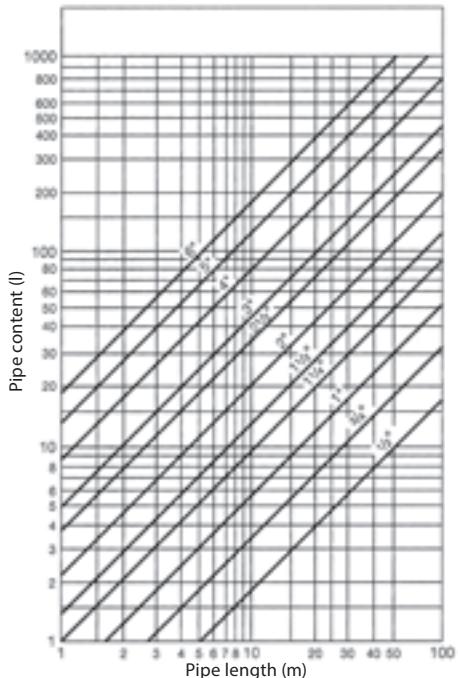
Convector		Radiators										
up to approx. 38 KW	= 4 Litres of sealant	up to approx. 17 KW	= 4 Litres of sealant									
up to approx. 77 KW	= 8 Litres of sealant	up to approx. 33 KW	= 8 Litres of sealant									
up to approx. 116 KW	= 11 Litres of sealant	up to approx. 50 KW	= 11 Litres of sealant									
up to approx. 155 KW	= 14 Litres of sealant	up to approx. 66 KW	= 14 Litres of sealant									
<hr/>		<hr/>										
Panel radiators		Long distance line										
up to approx. 23 KW	= 4 Litres of sealant	up to approx. 12 KW	= 4 Litres of sealant									
up to approx. 46 KW	= 7 Litres of sealant	up to approx. 23 KW	= 7 Litres of sealant									
up to approx. 70 KW	= 11 Litres of sealant	up to approx. 35 KW	= 10 Litres of sealant									
up to approx. 93 KW	= 14 Litres of sealant	up to approx. 46 KW	= 13 Litres of sealant									
<hr/>		<hr/>										
Under-floor heating												
up to approx. 130 m ²	≤ 3 Litres of sealant											
up to approx. 260 m ²	≤ 6 Litres of sealant											
up to approx. 390 m ²	≤ 9 Litres of sealant											
up to approx. 520 m ²	≤ 12 Litres of sealant											
<hr/>												
0	1	2	3	4	5	6	7	8	9	10	11	12

Dip the indicator sticks and read them wet

In the case of weak concentrated solutions, dip until no more colour changes occur (1 - 10 min.).

**FOR THE PRODUCTS: BCG 24, BCG SPECIAL,
BCG TD/TDS**

PIPE CONTENT OF THREADED PIPE



**For the products: BCG 84, BCG 84 S, BCG 84 L
and BCG Gas 2000**

DETERMINING THE WATER CONTENT

BCG HR: Mixing ratio 1:100 or greater

BCG R13: Mixing ratio pure or dilute maximum with 2 parts water.

BCG HR and BCG R13 have a pH value of approx. pH 2.

At approx. pH 6, the effect is used up and the product is consumed. Re-dosing must be done or a new mixture should be added.

For conventional heating systems: Systems with mostly:

Convector												
up to approx. 38 KW	=	255 Litres of system water										
up to approx. 77 KW	=	500 Litres of system water										
up to approx. 116 KW	=	730 Litres of system water										
up to approx. 155 KW	=	930 Litres of system water										
<hr/>												
Panel radiators												
up to approx. 23 KW	=	250 Litres of system water										
up to approx. 46 KW	=	445 Litres of system water										
up to approx. 70 KW	=	700 Litres of system water										
up to approx. 93 KW	=	880 Litres of system water										
<hr/>												
Radiators												
up to approx. 17 KW	=	270 Litres of system water										
up to approx. 33 KW	=	500 Litres of system water										
up to approx. 50 KW	=	730 Litres of system water										
up to approx. 66 KW	=	900 Litres of system water										
<hr/>												
Long distance line												
up to approx. 12 KW	=	240 Litres of system water										
up to approx. 23 KW	=	450 Litres of system water										
up to approx. 35 KW	=	670 Litres of system water										
up to approx. 46 KW	=	850 Litres of system water										
<hr/>												
For under-floor heating												
up to approx. 130 m ²	≤	200 Litres of system water										
up to approx. 260 m ²	≤	400 Litres of system water										
up to approx. 390 m ²	≤	590 Litres of system water										
up to approx. 520 m ²	≤	750 Litres of system water										
<hr/>												
0	1	2	3	4	5	6	7	8	9	10	11	12
			<img alt="Color scale from yellow to									

DOSING INSTRUCTIONS

The dosage for the heating system can, if not known, be determined approximately as follows.

For conventional heating systems: Systems with mostly:

Convector	Radiators
up to approx. 38 KW	= 3 Litres of sealant
up to approx. 77 KW	= 5 Litres of sealant
up to approx. 116 KW	= 7 Litres of sealant
up to approx. 155 KW	= 9 Litres of sealant
<hr/>	
Panel radiators	Long distance line
up to approx. 23 KW	= 3 Litres of sealant
up to approx. 46 KW	= 5 Litres of sealant
up to approx. 70 KW	= 7 Litres of sealant
up to approx. 93 KW	= 9 Litres of sealant
<hr/>	
Under-floor heating	
up to approx. 130 m ²	2 Litres of sealant
up to approx. 260 m ²	4 Litres of sealant
up to approx. 390 m ²	6 Litres of sealant
up to approx. 520 m ²	8 Litres of sealant

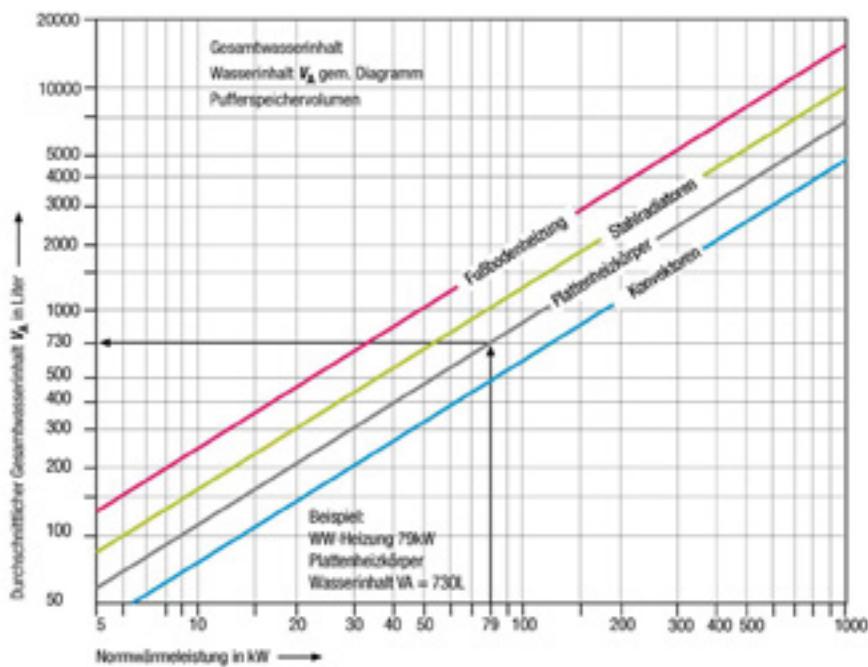
FOR THE PRODUCTS: BCG 30 E AND BCG E

CALCULATING THE CONTENTS PIPES

DN	d (mm)	di (internal diameter) (mm)	Volume in ltr. per m
50	50	44	1,6
70	75	69	3,7
100	110	101,4	8,1
125	125	115,2	10,4
150	160	147,6	17,1

FOR THE PRODUCTS: BCG SEWER, BCG DRAIN AND BCG HC 60

WATER CONTENT V_A OF A HEATING SYSTEM



FOR HEATING PRODUCTS



HEATING WATER ANALYSIS SET



Before repairing the heating system, we recommend a water analysis by our partner
InoWatec, 59174 Kamen

www.inowatec.de

The company InoWatec also does molybdate analyses.

1. Geltung

Für Angebot und Lieferungen der BaCoGa Technik GmbH, Alsfelder Warte 30, 36323 Grebenau (nachfolgend "BaCoGa") gelten ausschließlich die nachfolgenden Bedingungen. Einkaufsbedingungen, die von diesen Allgemeinen Verkaufs- und Lieferbedingungen abweichen, werden nur dann anerkannt, wenn sie von BaCoGa schriftlich bestätigt werden. Dies gilt auch dann, wenn BaCoGa in Kenntnis entgegenstehender oder abweichender Bedingungen des Kunden die Lieferung an den Kunden vorbehaltlos ausführt.

2. Aufträge, Vertragsschluss

2.1 Angebote von BaCoGa sind stets unverbindlich. Aufträge des Kunden gelten erst mit schriftlicher Bestätigung von BaCoGa oder mit Lieferung der Ware als angenommen.

2.2 An Bestellungen ist der Kunde zwei Wochen gebunden. Weicht die Auftragsbestätigung von der Bestellung ab, so hat der Kunde unverzüglich, spätestens jedoch innerhalb von 5 Arbeitstagen nach dem Datum der Auftragsbestätigung schriftlich zu widersprechen. Andernfalls kommt der Vertrag zu den in der Auftragsbestätigung genannten Bedingungen zu stande.

2.3 Vor Vertragsschluss getroffene besondere Vereinbarungen und Nebenabreden werden nur Vertragshalt, wenn sie in der Auftragsbestätigung enthalten sind. Mündliche Nebenabreden wurden nicht getroffen.

3. Preise, Zahlungsbedingungen, Verzug

3.1 Die Preise verstehen sich zuzüglich Mehrwertsteuer in gesetzlicher Höhe am Tag der Rechnungsstellung. BaCoGa behält sich das Recht vor, Preisänderungen aufgrund von zwischenzeitlichen Kostensteigerungen durchzuführen, insbesondere aufgrund von Faktoren, die nicht der Kontrolle von BaCoGa unterliegen. Der Kunde ist bei Preiserhöhungen von mehr als 10% berechtigt, von noch nicht ausgeführten Aufträgen zurückzutreten. In diesem Fall muss der Rücktritt innerhalb von 10 Tagen ab Mitteilung der neuen Preise BaCoGa schriftlich mitgeteilt werden. Danach ist ein Rücktritt nicht mehr möglich.

3.2 Rechnungen sind sofort nach Erhalt der Rechnung zur Zahlung fällig. Kommt der Kunde in Verzug, ist BaCoGa berechtigt, als Verzugsschaden Zinsen in Höhe von 8% über dem jeweiligen Basiszinssatz zu verlangen. Die Geltendmachung eines darüber hinausgehenden Verzugsschadens bleibt unberührt. Der Nachweis eines geringeren Schadens bleibt dem Kunden unbenommen.

3.3 Wenn wir dem Kunden aus seinen jährlichen Bezügen einen Bonus gewähren, so erfolgt dieses freibleibend und ohne Anerkennung einer Rechtspflicht. Die Gewährung eines Bonus in einem Kalenderjahr begründet keine Verpflichtung unseres Unternehmens, im folgenden Kalenderjahr erneut einen Bonus zu gewähren. Die Berechnung des Bonus steht in unserem billigen Ermessen. Der Kunde ist nicht berechtigt, sich den Bonus auszahlen zu lassen. Der Bonus kann nur mit zukünftigen Warenlieferungen verrechnet werden. Eine Verrechnung ist nur bis zum Ende des Kalenderjahres möglich, welches auf das Jahr folgt, für das der Bonus gewährt wird.

4. Aufrechnung, Zurückbehaltung

Gegenüber Ansprüchen von BaCoGa kann der Kunde nur aufrechnen, wenn seine Ansprüche unbestritten oder rechtskräftig festgestellt sind. Ein Leistungsverweigerungs- oder Zurückbehaltungsrecht kann der Kunde geltend machen, wenn sein Gegen-anspruch auf demselben Vertragsverhältnis beruht.

5. Gewährleistungsausschlüsse bei der Verwendung von Reinigungsprodukten, Dichtungsprodukten und sonstigen Produkten.

5.1 Die in Angeboten und Produktinformationen enthaltenen Angaben stellen keine Beschaffungsgarantie dar. Maßgebend sind nur die Angaben auf den Produkten oder eventuelle schriftliche Vereinbarungen.

5.2 BaCoGa leistet keine Gewähr für die dauerhafte Abdichtung bei überproportionalen Dehnungsrissen aufgrund thermischer Längenänderungen ab einer Größe von 1 mm.

5.3 BaCoGa leistet keine Gewähr bei Beanstandungen, die auf folgenden Tatbeständen beruhen,

- Überschreitung der Mindesthaltbarkeitsdauer
- nicht sachgemäßem Transport, z.B. unter Einfluss von Frost
- nicht sachgemäßem Lagerung, z.B. unter Einfluss von Frost
- unterlassener Wartung
- Wartung, bei der die technischen Richtlinien der BaCoGa nicht eingehalten wurden
- nicht restloser Entfernung der Reinigungsprodukte aus den Rohrsystemen

5.4 BaCoGa leistet keine Gewähr bei Verwendung von Chemikalien, Dichtmitteln oder Reinigungsmitteln anderer Hersteller.

6. Gewährleistungsausschlüsse für Technisches Systemzubehör

6.1 Technisches Systemzubehör sind die Geräte G 20, G 21, G 21 J, BCG Gas Zubehör und Sonderzubehör für die genannten Gegenstände.ersetzen wir diese Geräte durch entsprechende Geräte, dann gelten die nachstehenden Bestimmungen auch für diese Geräte.

6.2 BaCoGa leistet keine Gewähr bei Beanstandungen, die auf unsachgemäßer Behandlung/Bedienung, Missachtung der Bedienungsanleitung, nicht bestimmungsgemäßem Einsatz der Geräte oder auf die Verwendung von Chemikalien, Dichtmitteln oder Reinigungsmitteln anderer Hersteller zurückzuführen sind.

7. Allgemeine Gewährleistungsbestimmungen

7.1 Sofern kein Gewährleistungsausschluss nach den Nummerngruppen 5 und 6 der AGB vorliegt, leistet BaCoGa Gewährleistung nach den folgenden Bestimmungen.

7.2 BaCoGa übernimmt die Gewähr dafür, dass die verkauften Produkte im Zeitpunkt der Übergabe frei von solchen Mängeln sind, welche die Tauglichkeit zum vertragsgemäßen Gebrauch wesentlich einschränken oder aufheben. Eine unerhebliche Minderung des Wertes oder der Tauglichkeit kommt nicht in Betracht. Im Falle des Vorliegens eines Mängels ist BaCoGa nach ihrer Wahl zur Nacherfüllung in Form der Mängelbeseitigung oder zur Lieferung einer neuen mängelfreien Sache berechtigt.

7.3 Schlägt die Nacherfüllung fehl, so kann der Käufer im Falle eines wesentlichen Mangels vom Vertrag zurücktreten oder sonst die in § 437 BGB genannten Rechte geltend machen.

7.4 Im kaufmännischen Verkehr, d.h. beim Verkauf an Unternehmen gilt zusätzlich, dass offensichtliche Mängel des Kaufgegenstandes vom Käufer unverzüglich nach Ablieferung, spätestens jedoch innerhalb einer Frist von 10 Tagen nach Ablieferung des Kaufgegenstandes schriftlich zu rügen sind.

7.5 Im Übrigen haftet BaCoGa dem Grunde nach für Schäden des Kunden,

- die BaCoGa oder ihre gesetzlichen Vertreter oder Erfüllungsgehilfen vorsätzlich oder grob fahrlässig herbeigeführt haben,
- die durch die Verletzung einer Pflicht durch BaCoGa, die für die Erreichung des Vertragszwecks von wesentlicher Bedeutung ist (Kardinalpflichten), entstanden sind,
- wenn diese Ansprüche aus dem Produkthaftungsgesetz resultieren,
- wenn eine Garantie für die Beschaffenheit der Sache übernommen wurde oder arglistig getäuscht wurde,
- aus der Verletzung des Lebens, des Körpers oder der Gesundheit, die auf einer Pflichtverletzung der BaCoGa oder eines ihrer gesetzlichen Vertreter oder Erfüllungsgehilfen beruhen.

7.6 BaCoGa haftet in voller Höhe bei Schäden, die vorsätzlich oder grob fahrlässig verursacht wurden. Im übrigen wird der Schadensersatzanspruch auf den vorhersehbaren, vertragstypischen Schäden begrenzt, im Falle des Verzugs auf 5% des Auftragswerts. Die Haftung nach dem Produkthaftungsgesetz bleibt unberührt.

7.7 In anderen als den in 5.2 bis 5.6 genannten Fällen ist die Haftung von BaCoGa - unabhängig vom Rechtsgrund – ausgeschlossen.

7.8 Alle Ansprüche von Unternehmen gegen BaCoGa verjährn nach Ablauf von 12 Monaten seit ihrer Entstehung, es sei denn, sie basieren auf einer unerlaubten oder vorsätzlichen Handlung oder auf dem Produkthaftungsgesetz.

7.9 Soweit die Haftung von BaCoGa ausgeschlossen ist, gilt dies auch für die persönliche Haftung der Angestellten, Arbeitnehmer, Mitarbeiter, Vertreter und Erfüllungsgehilfen von BaCoGa.

8. Eigentumsvorbehalt

8.1 Alle von BaCoGa gelieferten Waren bleiben bis zur vollständigen Bezahlung Eigentum von BaCoGa. Der Eigentumsvorbehalt erstreckt sich auch auf alle im Zeitpunkt des Abschlusses des Vertrags bereits entstandenen Forderungen.

8.2 BaCoGa ermächtigt den Kunden zur Veräußerung und Verarbeitung der Vorbehaltsware im normalen Geschäftsverkehr. Diese Ermächtigung ist jederzeit widerruflich.

8.3 Die Be- und Verarbeitung der Vorbehaltsware durch den Kunden erfolgt stets im Namen und im Auftrag von BaCoGa. Erfolgt durch die Verarbeitung eine Verbindung und/oder Vermischung mit nicht BaCoGa gehörenden Gegenständen, so verschaafft der Kunde BaCoGa Miteigentum an der neu entstehenden Sache, die dann zur Vorbehaltsware wird, im Verhältnis der von BaCoGa gelieferten Ware zu den sonstigen Anteilen der neuen Sache.

8.4 Veräußert der Kunde die Vorbehaltsware, so tritt er schon jetzt seine Kaufpreisforderung gegen seinen Abnehmer an BaCoGa zur Sicherheit bis zur Zahlung der gesamten Forderungen ab. Der Kunde ist berechtigt, die an BaCoGa abgetretenen Forderungen im ordnungsgemäßen Geschäftsgang einzuziehen. Diese Ermächtigung kann von BaCoGa widerrufen werden, wenn der Kunde seinen Zahlungspflichtungen gegenüber BaCoGa nicht ordnungsgemäß nachkommt, insbesondere in Zahlungsverzug gerät.

8.5 Der Kunde ist nicht berechtigt, die Vorbehaltsware zu verpfänden oder zur Sicherheit zu übergeben. Werden die Vorbehaltsware oder das Grundstück, auf dem sich die Vorbehaltsware befindet, durch Dritte gepfändet oder auf andere Weise in Anspruch genommen, hat der Kunde auf unser Eigentum hinzuweisen und BaCoGa unverzüglich schriftlich zu benachrichtigen.

9. Erfüllungsort und Gerichtsstand

Erfüllungsort für Lieferung und Zahlung ist Grebenau. Ausschließlicher Gerichtsstand ist Fulda. Die Anwendung des UN-Kaufrechtes wird ausgeschlossen. Es gilt ausschließlich das Recht der Bundesrepublik Deutschland. Sollte das Recht der Bundesrepublik Deutschland auf eine andere Rechtsordnung verweisen, verbleibt es gleichwohl beim Recht der Bundesrepublik Deutschland.



ISO 9001
zertifiziert

BaCoGa[®]

TECHNIK GMBH

Hersteller:
BaCoGa Technik GmbH
Alsfelder Warte 30
D-36323 Grebenau
Tel. +49 (0)6646/96 05 0
Fax +49 (0)6646/96 05 55
E-Mail: info@bacoga.com

www.bacoga.com