The Plastics Experts.

AGRULINE

THE USER-FRIENDLY AND RELIABLE PE 100-RC PIPING SYSTEM

EN

The Plastics Experts.

The **AGRU** success story has been unfolding now for around seven decades. Founded back in 1948 by Alois Gruber senior, nowadays the company is one of the world's most important single-source suppliers for piping systems, semi-finished products, concrete protection liners and lining systems made from engineering plastics. Our ability to supply everything from a single source sets us apart. We use only top-grade thermoplastic polymers as our raw materials. When it comes to application-technical consulting, we are your best partner in the field.

The AGRULINE product group offers a complete, high-quality product range of pipes, fittings, valves and customized components made from polyethylene for safe and environmentally friendly supply of gas, potable water and wastewater disposal. Years of experience, a highly knowledgeable staff and state-of-the-art manufacturing equipment are the cornerstones for our high quality products.

Quality

At AGRU, customer satisfaction comes first. Technical consultations, training courses, welding instruction and expert supervision on site are essential parts. The AGRU quality assurance system is compliant with ISO 9001:2015 and its environmental management system fulfils ISO 14001:2015, as well as an occupational safety management system according to ISO 45001:2018. This in turn ensures that the products comply with international norms, as monitored and evaluated on an ongoing basis by independent testing agencies standards.

The start-to-finish attention to quality ensures that the products meet and beat the strictest technical specifications, providing safe operation within drinking water, wastewater, hydrogen and gas infrastructures. The AGRULINE PE 100-RC product range has been tested by the DBI Gastechnologisches Institut, and certified for hydrogen compatibility up to 100% hydrogen by volume.

AGRULINE
Pipes, fittings and customized solutions perfectly harmonised

AGRULINE involves an ingenious piping system comprised of ultra-robust PE 100-RC materials for safe operation within drinking water, wastewater, hydrogen and gas infrastructures. Decades of product optimisation have turned AGRULINE into a perfect highly cost-effective piping system unlike any other.

One stop shopping

Pipes and fittings from one factory for maximum accuracy of fit

One stop shopping
- all components are designed to fit perfectly with one another
- personal technical consulting is included
- reliable on-time delivery supports your work site logistics
- all components of the system are available between OD 20 mm and OD 3500 mm

Maintenance free pipework

Homogeneous welding and PE 100-RC ensure operational safety

Welded PE piping systems are more reliable and durable than push-in connections
- AGRULINE pipework is homogenous, longitudinally forcelocked and leak-tight
- the best welding system is selected based on the specific application
- no expensive supports are needed to lay the pipework into the ground
- intact pipelines, still in operation 50 years after installation – a testament to their reliability

High economic efficiency

Simple assembly, high quality and long service lives

Saves time and money
- the flexibility of PE often allows for direction changes without fittings
- dimensionally accurate pipes and fittings keep the installation time short
- the investment interval for PE pipes is calculated in terms of several decades
- smooth inner surfaces prevent adhesion and offer perfect flow characteristics

Certified materials

Raw materials in accordance to PE 100+ Association guidelines

Outstanding material properties ensure
- high rupture strength
- extreme resistance to slow crack growth
- insensitive to pressure surges and seismic activity

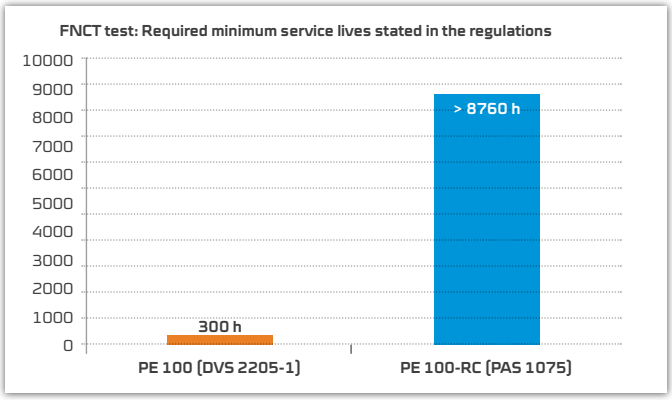
Outstanding expertise in the field of plastics processing

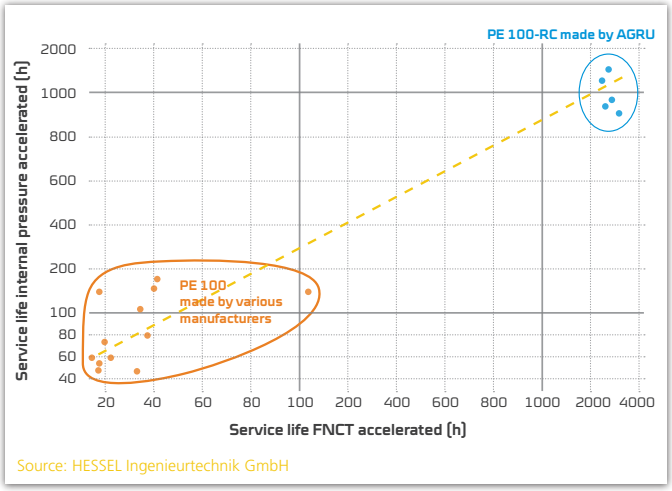
Decades of on-site experience and R&D

over 55 years of experience:
- flexible, solution-oriented service from knowledgeable employees
- state-of-the-art production machines and processes
- ingenious and well-engineered pipework components
- strong ability to tailor to application through in-house toolmaking
- products certified based on EN 12201 / EN 1555, ISO 4427 / ISO 4437, ÖVGW, DVGW

Thanks to their extremely high resilience to occurring point loads caused by objects such as stones, AGRULINE PE 100-RC fittings can be installed on virtually any terrain without an expensive sand bed.

PE 100-RC: The high-performance material





Source: HESSEL Ingenieurtechnik GmbH

PE 100-RC material requirements

The full-notch creep test (FNCT as per ISO 16770) is a recognised test method for determining resistance to slow crack growth in polyethylene. After a wetting agent has been applied, a notched test specimen is exposed to tensile stress at a high temperature (80 °C). The minimum service life for PE 100-RC fittings must be > 8760 hours acc. to PAS 1075. In contrast to this, the required minimum service life for PE 100 components acc. to DVS 2205-1 is just 300 hours. The excellent quality and operating safety of AGRULINE fittings has now been substantially improved once again through the new PE 100-RC.

Standing times up to 20 times longer

In a comprehensive series of tests, the renowned HESSEL Ingenieurtechnik GmbH test institute impressively demonstrated that the service life of PE 100-RC E-couplers is many times longer than that of PE 100 E-couplers currently available on the market. The vertical axis shows the service life in an accelerated internal pressure test (90 °C, test pressure of 9.2 bar and wetting agent 2% NM5 in deionised water). The horizontal axis shows the correlating service life of corresponding test specimens in a full-notch creep test (FNCT), which were also subjected to accelerated test conditions.

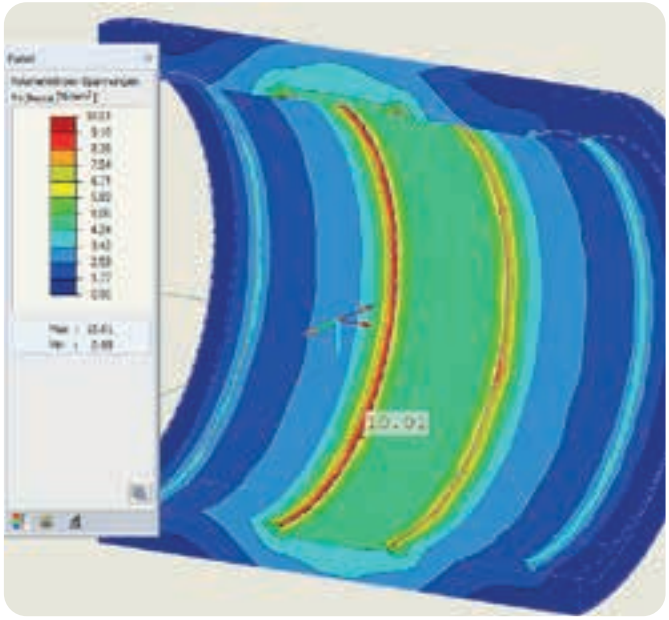
The results of these tests proof a service life of up to twenty times longer for PE 100-RC electro-socket fittings under identical test conditions!

Temperature and pressure differences cause tensile stress in piping systems installed above ground. In heated element butt welded joints, PE 100-RC prevents stress-induced notching around the edge of the weld bead.

PE 100-RC maximum reliability

Inseparable joints

High operating pressures, as well as expansion and contraction caused by temperature fluctuations, especially in piping systems installed above ground, are hard on the welded joints. The edge of the welding zone at the centre of the E-coupler faces the highest exposure to tension and internal pressure loads. It has been proven that higher resistance to slow crack growth therefore leads to better long-term results. The use of AGRU pipes and fittings which are now completely manufactured using PE 100-RC achieves considerable improvements in electro-socket and heated tool butt welded joints. This enhances the long-term safety of underground and above-ground piping systems.



Simulation of stress peaks occurring around the edges of the weld under test conditions as per DIN EN 1555-3 and DIN EN 12201-3. Source: HESSEL Ingenieurtechnik GmbH

Tee elongated - injection moulded OD 630 SDR 11 Code 066

AGRULINE fittings for perfect connections

AGRULINE fittings from PE 100-RC

Extensive range of electro-socket fittings, spigot saddles and couplers

- enormous stress crack resistance thanks to robust PE 100-RC
- no sand embedding required, saving costs during laying
- perfectly harmonised for all AGRULINE pipes
- permanently leak-tight connections through butt, socket or electro-socket welding
- simple assembly of the electro-socket fittings thanks to chamfered inlets and long insertion depths
- simple to weld, even where little space is available or terrain is difficult

Elongated fittings – improved flexibility when welding

- compatible with butt welding and electro-socket welding
- flexibility in applications
- low-stress thanks to optimised gate system

PRODUCT RANGE	
Dimensions	
SDR 26	OD 110 mm - 400 mm*
SDR 17	OD 63 mm - 500 mm*
SDR 11	OD 20 mm - 500 mm*

*Tee elongated up to OD 630

Short-spigot fittings – for heated tool butt welded pipelines

- outstanding rupture strength thanks to cutting-edge injection moulding technique
- for pipeline installations with serious space restrictions
- easy to handle on-site thanks to low weight and compact component dimensions

PRODUCT RANGE	
Dimensions	
SDR 33	OD 110 mm - 500 mm
SDR 17	OD 63 mm - 500 mm*
SDR 11	OD 20 mm - 500 mm*

*Stub flanges up to OD 710 mm

Heated tool socket fittings – in small dimensions

- compact fittings for fast connections using heated tool socket welding
- easy to handle, even at limited space conditions
- affordable solution and affordable welding equipment

PRODUCT RANGE
Dimensions
OD 20 mm - 110 mm

Installation of Sureline III protective layer pipe on rocky ground.

Installation of FM approved firefighting line without sand embedment.

Sweep bends - low flow resistance

- unimpeded flow of media thanks to smooth inner surface and large radius
- bent but stable pipes - available in many dimensions and angles
- full pressure resistance
- for gas and potable water
- suitable for heated tool butt welding and electro-socket welding

PRODUCT RANGE	
Dimensions	
SDR 17	OD 90 mm - 800 mm
SDR 11	OD 90 mm - 800 mm
11°, 22°, 30°, 45°, 60°, 90°	

Other SDR levels as well as special angles are possible on request

FM 1613 approved pipes and fittings - for reliable underground fire protection lines

- FM 1613 approved for top reliability in emergency situations
- corrosion-free, eliminating threat of sprinkler clogging
- subject to 3,2x maximum pressure during certification to ensure top safety

PRODUCT RANGE	
Dimensions	
215 psi / SDR 11	OD 63 mm - 630 mm
250 psi / SDR 9	OD 63 mm - 630 mm

AGRU SDR 7.4 pipes and fittings - for high-pressure applications

- thick walls can handle water pressure up to 25 bar
- extensive range of products, including injection-moulded fittings
- strong static ratings for maximum safety in practical applications
- fits SDR 7.4 pipes in dimensions from 63 – 500 mm

PRODUCT RANGE	
Dimensions	
SDR 7.4	OD 63 mm - 500 mm

Segmented fittings - also available in special dimensions

- segmented fittings are available in dimensions up to OD 3500 mm and are designed and harmonised to the customer's specific specifications
- solutions with or without de-rating factor for pressure available
- top flexibility, as pieces are produced to meet the customer's requirements
- expert workmanship and strict QA ensure identical performance to standard fittings

PRODUCT RANGE	
Dimensions	
SDR 41	OD 560 mm - 3500 mm
SDR 33	OD 560 mm - 3500 mm
SDR 26	OD 560 mm - 3500 mm
SDR 21	OD 560 mm - 3000 mm
SDR 17	OD 560 mm - 2500 mm
SDR 11	OD 560 mm - 1600 mm

Customized fittings - in accordance with your needs

- customized fittings are available in dimensions up to OD 3500
- designed according to customer requirements to ensure a perfect fit
- reduced overall costs through perfect integration in any construction plans
- pressure-rated versions available by request

PRODUCT RANGE
Dimensions
Available in various pressure ratings up to OD 3500 mm, by request

AGRULINE fittings for electro-socket welding

Electro-socket fittings - injection moulded

- Fully embedded heating wire – easy to clean, safe installation.
- Generous heating- and cooling zones for perfect welding results.
- Excellent shrinkage behaviour during the welding process – closes the gap between pipe and fitting and applies the required welding pressure due to special production process.
- Point load resistant and suitable for installation without sand embedment due to PE 100-RC material.
- Full component traceability.

PRODUCT RANGE	
E-coupler Dimensions	
SDR 11	OD 20 - 500 mm
SDR 17	OD 90 - 500 mm
Fittings Dimensions	
SDR 11	OD 20 - 225 mm

Fittings in OD 250 mm can be produced in-house using a machined coupler (Code 172).

Machined E-couplers

- All the benefits of electrofusion fitting
- In dimensions where injection moulded parts are no longer available
- Bifilar design, one-sided pre-welding possible
- Optimised handling
- Controlled welding pressure thanks to tension belts
- Perfect heat distribution through preheating and welding

PRODUCT RANGE CODE 373	
Machined E-couplers	
SDR 11	OD 560 mm - 900 mm
SDR 17	OD 560 mm - 1400 mm
SDR 26	OD 560 mm - 1600 mm

AGRULINE saddles and valves

To create efficient branches

Efficient solution for installation of branches on main lines

- simplified installation, flexible alignment on the main pipe
- injection-moulded version up to OD 355 mm
- machined version from OD 355 - 3500 mm
- simplified installation of the „Topload" system
- specially engineered clamping system

SYSTEM TOPLOAD, MACHINED CODE 289	
OD of main [mm]	**OD of spigots [mm]**
355	63 - 225
400	63 - 250
450 - 560	63 - 315
630 - 710	63 - 355
800 - 1000	63 - 500
1200 - 1400	63 - 630
1600	315 - 900
1800	315 - 1000
2000 - 3500	315 - 1200

Special dimensions on request

SPIGOT SADDLES INJECTION-MOULDED CODE 288	
OD of main [mm]	**OD of spigots [mm]**
90	20, 32, 40, 63
110	20, 32, 40, 63
125	20, 32, 40, 63
140	20, 32, 40, 63
160	32, 40, 50, 63, 90, 110
180	32, 40, 50, 63, 90, 110
200	20, 32, 40, 63
225	32, 40, 50, 63, 90, 110
250	50, 63, 75, 90, 110
280	50, 63, 90, 110
315	63, 90, 110
355	63, 90, 110

Hot-Tapping – tapping under pressure

Tapping saddles – creating branches by hot tapping

Creating branches (e.g. house connections) on main pipes during operation

- quick and easy installation through mounting belt
- gas-tight through patented telescoping tapping system
- clean, leak-tight tapping without chips or residues
- long spigots for two times electrofusion
- to be combined with AGRU Gas-Lock

TAPPING SADDLES	
Dimension of main [mm]	**Dimension of spigots [mm]**
40	20, 25, 32
63	20, 25, 32, 40, 63
90	25, 32, 40, 63
110	20, 25, 32, 40, 63
125	20, 25, 32, 40, 63
160	20, 25, 32, 40, 63
180	25, 32, 63
200	20, 25, 32, 40, 63
225	25, 32, 63
250	32, 63
315	63

Pressure tapping valves – creating branches by hot tapping with valve function

Creating branches (e.g. house connections) on main pipes during operation with integrated valve function

- low construction height
- rapid opening and closing with maximum 10.5 rotations
- reduced flow loss thanks to optimised component design
- enduring quality thanks to PE 100-RC material and integrated valve components made of lead-free brass and stainless steel
- extra long spigots for 2x electrofusion

PRESSURE TAPPING VALVES CODE 079	
Dimension of main [mm]	**Dimension of spigots [mm]**
63, 90, 110, 125, 160, 180, 225	32, 40, 50, 63
250, 280, 315, 355	63

Stop-Off-Saddle – Shutting off PE gas pipeline sections

For damaged gas pipes that needs to be repaired quickly

- reliable design made of PE 100-RC and brass
- quick installation thanks to mounting belt
- compatible with all common bag position devices
- after completion permanently tightly sealable

STOP-OFF-SADDLE CODE 075	
Dimension of main [mm]	**Dimension of spigots [mm]**
90, 110, 125, 160	2 $^1/_2$“

Sureline I

- **Solid wall PE 100-RC pipe**
- **With/without signal strips**

Sureline II

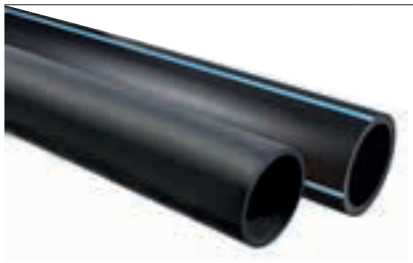
- **Multy-layer PE 100-RC pipe**
- **With integrated signal strips**

AGRU Sureline pipes are versatile, flexible and lightweight. They are ideal and economical for installation without sand bedding, as well as for alternative installation methods such as horizontal directional drilling, ploughing, sub lining or soil displacement hammers.

Sureline I pipes - the reliable classic

- PE 100-RC pipes for potable water, gas and wastewater
- pipes are black or with coloured stripes running axially for clear identification of the application area

PRODUCT RANGE	
Dimensions	
SDR 17	OD 63 mm - 1000 mm
SDR 11	OD 20 mm - 1000 mm



Sureline II pipes - for top safety

- PE 100-RC pipes for potable water, gas and wastewater
- clear labelling of application through coloured signal layer

PRODUCT RANGE	
Dimensions for water, wastewater	
SDR 17 / SDR 11	OD 75 mm - 1200 mm
Dimensions for gas	
SDR 17 / SDR 11	OD 75 mm - 400 mm

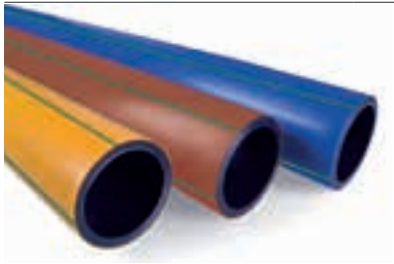
Sureline III

- **Solid wall PE 100-RC pipe**
- **Additional PP protective layer**

Sureline III pipes with protective layer - twice the safety

- PE 100-RC inner pipe with additional protective layer of PP
- twice the safety for extreme applications such as pipe bursting or horizontal directional drilling on stony soils
- scratch-proof PP protective layer prevents significant damage to inner lining during installation and improves operational reliability
- rapid heated tool butt welding thanks to factory-stripped ends

PRODUCT RANGE	
Dimensions for gas: orange protective layer	
SDR 17 / SDR 11	OD 63 mm - 225 mm
Dimensions for potable water: blue protective layer	
SDR 17 / SDR 11	OD 63 mm - 1200 mm
Dimensions for wastewater: brown protective layer	
SDR 17 / SDR 11	OD 63 mm - 1200 mm



Sureline III with protective layer, for the new installation

Extension of a water supply network and construction / connection of a high tank. Trench installation as well as horizontal directional drilling of 3 sections underneath a highway. The project costs could thus be reduced immensely, since the traffic on the highway could be continued unhindered. The contractor also decided to install in the trench the Sureline III pipe in order to get the benefit of this „double safety" for the complete piping system.

Sureline III with protective layer for pipe reconditioning

Reconditioning of old, damaged potable water line made of asbestos cement using pipe bursting. Insertion of multiple sections of up to 175 m in length. Expansion of the existing pipe dimension from OD 150 to OD 160 mm. Traffic could continue to flow.

During pipe bursting, the pipe is subjected to particularly high loads. Stones in the ground as well as the cracked old pipe scratch the pipe surface. The additional scratch-resistant PP protective layer is the ideal solution, it absorbs the damage and thus ensures that an impeccable new media-carrying pipe can be put into operation.

PE pipes Pipes with a diameter over 400 mm can be deformed on site and pulled into the old pipe.

SurePEX and Surefit

SurePEX pipes - top safety

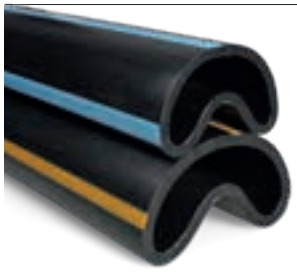
- impact insensitive pipes from crosslinked polyethylene (PE-Xa)
- extremely flexible, even at low temperatures
- uncompromising quality for top safety at temperatures ranging from – 50 °C to + 95 °C
- the outstanding stress crack resistance ensures permanent leak-tight house connections
- also ideal for hot water lines, district heating and geothermal heating in the sanitary and industrial fields

PRODUCT RANGE	
Dimensions	
SDR 11	OD 25 mm - 125 mm

AGRU Surefit - Relining without annular gap

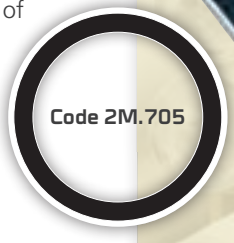
- diameter reduction through factory-side pipe preparation
- rapid, affordable laying using winch dragging
- pressure and steam are applied, with „memory effect" causing pipe to resume its previous round shape
- perfect flow characteristics and full pressure resistance
- interior diameter reduced through relining is compensated through outstanding flow characteristics

PRODUCT RANGE	
Dimensions for gas and potable water	
SDR 17	DN 200 mm - 400 mm
Dimensions for wastewater	
SDR 26	DN 200 mm - 400 mm
SDR 32	DN 350 mm - 400 mm

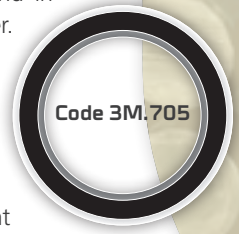


MINELINE I and II Abrasion-resistant piping systems

MINELINE I is a PE 100-RC pipe which has a white protective outside layer. The good abrasion resistant properties of PE 100-RC are given. The white outside layer reflects the sunlight, preventing this way the heating of the pipe of up to 70 °C. For this reason, the strength and pressure resistance of the pipe best possible remain under intense solar radiation.



MINELINE II has an white outside protective layer and in addition to this a high abrasion resistant inside layer. Depending on the transported media, MINELINE II pipes offer a further improved life span than PE 100(-RC) and Mineline I pipes.



MINELINE II fittings are built up the same way as MINELINE II pipes with the additional, abrasive resistant layer. This is important because especially in bends and tees, the abrasion is much higher than in straight pipes.

In addition to the safe three-layer structure, MINELINE II can be connected using a combination of butt and electro-socket welding. This helps to avoid potential weak points and protects the inner pipe against abrasion.

MINELINE
Pipe
PE 100-RC
white signal-layer
and abrasion-layer
segmented

MINELINE
Bends
PE 100-RC
white signal-layer
and abrasion-layer
segmented

MINELINE
Tee
PE 100-RC
weiße Signalschicht
und Abrasionslayer
segmented

MINELINE
Stub flange
PE 100-RC
white signal-layer
and abrasion-layer
machined

AGRU Flex Restraint

The AGRU Flex Restraint is a flexible bar for electro-socket welding onto PE 100 / PE 100-RC pressure pipes. This way, a rigid system by fixed points can be created that absorbs high forces to prevent axial movement.

This special fitting is placed onto the pipe with a tensioning belt and is homogeneously welded by electro-socket welding in accordance with AGRU installation guidelines, based on DVS 2207-1.

The AGRU Flex Restraint offers a strength of 40 KN in axial direction. If higher forces have to be absorbed, several Flex Restraints are to be distributed around the circumference.

Thus, it is also suitable to fix concrete ballast blocks when laying pipes offshore in order to secure them against slipping during the installation process.

PRODUCT RANGE CODE 169	
Product	AGRU Flex Restraint
Material	PE 100-RC
Shear strength	40 KN / 4 to pro Flex restraint
Dimensionsrange	OD 160 - 3500

Create a rigid system by using AGRU Flex Restraints

Fixing concrete ballast blocks

Create wall anchors

AGRU Gas-Lock

The quickstop-valve for safe gas pipe operation

It is implemented in polyethylene fittings (e.g. tapping tees) which are used for connection pipes. The Gas-Lock closes the passage in case the flow rate exceeds a defined level within a split of seconds. As a result, there is no leakage of gas and the environment is kept safe. After the repair work has been finished, the Gas-Lock can be re-opened by reapplying a pressure balance between the supply pipe and the main pipe.

Code	Dimension	Specification
9P272XXXX00	OD 20, 32 mm	1,0-5,0 bar
9P272203200	OD 32 mm	0,2-5,0 bar

- **closes and stops the gas flow immediately**
- **perfectly suitable for AGRU tapping saddles and pressure tapping valves**
- **is easy and fast to install**
- **The reliable safety valve**

step 1 **step 2** **step 3** **step 4**

SCP-System

AGRU electrofusion welding machines with SCP „Short Circuit Protection“

Detects short circuits and stops the welding process immediately.

Inadequate welding preparation can cause excessive movement of the heating wire during welding, which might lead to:

- undetected short circuits,
- overheating,
- material escape,
- ignition of the plastic material.

Newly available AGRU electrofusion universal machines with built-in SCP (Short Circuit Protection) system, detect short circuits based on variations in fittings heating wire resistance. These resistance changes are documented and analysed by the SCP system, which stops the welding process accordingly.

The SCP system works for all AGRU injection moulded fittings from OD 20 mm up to OD 500 mm and is implemented in all new AGRU electrofusion welding machines.

By using AGRU electrofusion fittings and AGRU welding machines with SCP system, maximum safety is applied to your piping system.

AGRU EF 1600
Code SHR1600EF00

AGRU HST 300 PRICON
Code SHR300PRI00

AGRU HST 300 PRINT PLUS
Code SHR300PLU10

AGRU HST 300 SMART
Code SHR300SMA00

AGRU Flange connections

Backing ring and blind flange

Flange connections are primarily needed for material transitions, integrating valves and separable connections. Backing rings and stub flange are used to create leakproof but separable connections between AGRULINE piping systems. Blind flanges are used as covers at the end of a pipeline.

The benefits of AGRULINE backing ring and blind flanges:

- steel core encapsulated in glass-fibre-reinforced PP
- very stiff and therefore dimensionally stable and permanently leakproof
- corrosion-resistant and thus maintenance-free
- it is easy to create transitions to other materials
- suitable for integrating valves
- designs comply with EN 1092 (PN 10 or PN 16) and ASME B 16.5 (class 150)

PRODUCT RANGE

Standard flange SDR 33 - 11

DIN PN 10 / DIN PN 16
ANSI class 150
OD 20 mm - OD 630 mm

PRODUCT RANGE CODE 362

Special Flanges for Valves SDR 17 - 11

For efficient installation of valves. These can be made one size smaller, optimising flow characteristics and saving costs.

DIN PN 10 / DIN PN 16
OD 160/125 mm - OD 560/500 mm

PRODUCT RANGE DIN CODE 292.0, ANSI CODE 294.0

High pressure flange SDR 9 - 7,4

Perfectly matched and optimised complete solution for extreme requirements.

DIN PN 25 / ANSI class 150 / ANSI class 300
OD 63 mm - OD 500 mm

Full-faced flange

AGRULINE Full-faced flanges are often used for connecting hydrants or water tanks to water pipes. They offer the best possible connection between metallic components and PE pipelines.

The benefits:

- separable flange joint
- easy installation without loose parts.
- injection-moulded reinforcement ribs

PRODUCT RANGE CODE 162

Full-faced flange

PN 10/16	OD 90 mm - 180 mm

AGRULINE Concrete connection socket

Concrete connection socket

PE pipes in shafts and walls are fed through and anchored in a manner that is watertight and safe.

The AGRULINE concrete connection socket, which is made of the high-quality material PE 100-RC, can be used to create a welded, tension-resistant joint thanks to its integrated heating wires. All AGRU concrete connection sockets come with an EPDM puddle flange.

The concrete connection socket has many benefits:

- made from the crack-resistant material PE 100-RC
- EPDM puddle flange ensures connections are permanently leakproof
- optimised anchoring in concrete thanks to a prefabricated groove
- electro-socket welding with PE pipes
- suitable for SDR levels between 33 and 11
- root penetration not possible

PRODUCT RANGE CODE 178.1	
Concrete connection socket	
SDR 11 - SDR 33	OD 160 mm - 560 mm

The concrete connection socket is mounted flush with the formwork and grouted in with concrete. A prefabricated groove guarantees safe anchoring and the puddle flange acts as a seal.

Concrete connection socket type 2

This type does not have integrated heating wires like the concrete connection socket, but has an external electro-socket fitting. The benefits of a typical concrete connection socket, such as protection of potable water and groundwater, are combined with even more flexible installation. The constructional separation of the concrete connection socket and the electro-socket fitting increases the range of applications the sleeve can be used for and prevents the heating wire from being soiled when the concrete is being poured in. There is also another benefit: AGRUSAFE concrete protection plates can be homogeneously welded with the concrete connection socket on the face side.

PRODUCT RANGE CODE 178.2	
Concrete connection socket type 2	
SDR 11	OD 110 mm - 400 mm

The concrete connection socket type 2 has an external electro-socket fitting.

AGRU supplied suitable piping for lake water utilization (heating and cooling) made of PE 100-RC.

Photo: Hydrokarst Swiss

References

AGRU supplies XXL-sized pipelines for the cooling water system of a world-renowned chip manufacturer.

XXL piping systems
up to Ø 3500 mm

For the construction of a large dimensioned, two-tube culvert under the Spree River, two large-diameter PE pipelines of OD 1400 mm and OD 1200 mm were laid without trenching.

AGRU provided PE 100-RC pipes and fittings for efficient cooling in a Polish data center.

Siphon under the Danube, laying pipelines for drinking water, district heating, fiber optics, and gas.

The Plastics Experts.

Your distributor

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Illustrations are generic and for reference only.

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