

# Quick-Lock



## PRESSURE PIPE

QUICK  LOCK



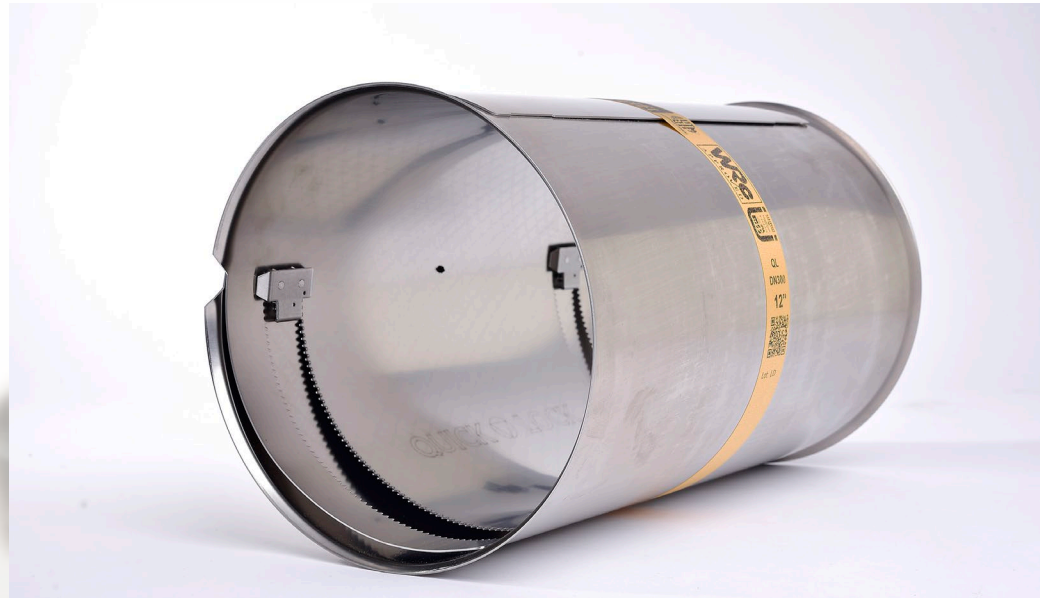


## 8. Quick-Lock PRESSURE PIPE LD + HD



## Quick-Lock PRESSURE PIPE LD (low duty)

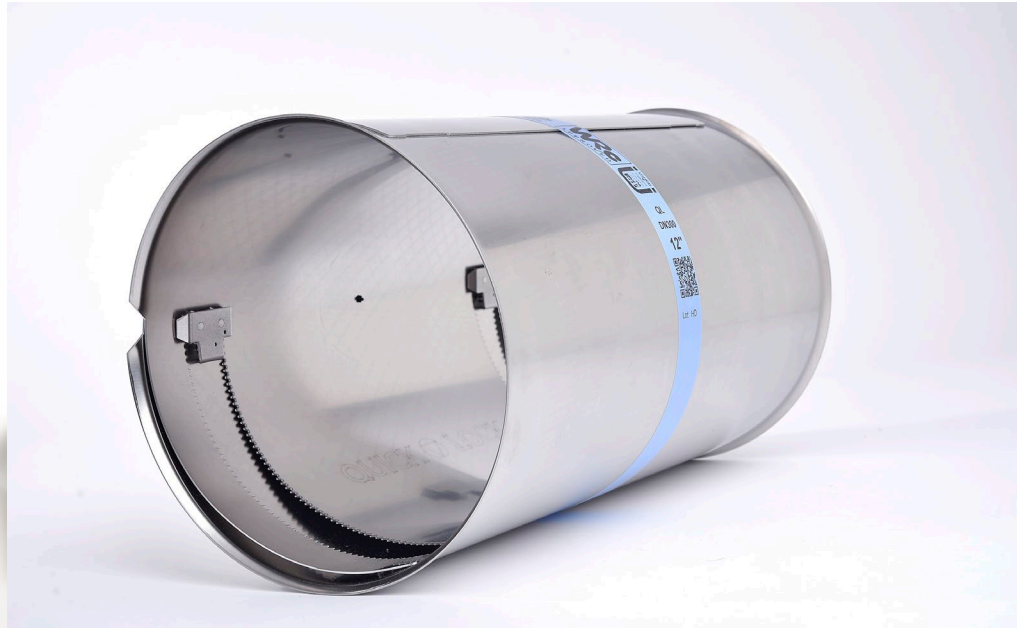
- Ⓢ permissible static pressure -0.9 bar to 50 bar / **-13.05 psi to 725.19 psi**
- Ⓢ permissible dynamic pressure -0.4 bar to 3 bar / **-5.80 psi to 43.51 psi**
- Ⓢ When using the Quick-Lock sleeve (non-walkable area) in pressurized pipelines (internal pressure), the pressure resistance can always only be guaranteed in conjunction with the use of a protector shield (around the outside of the seal). The protector shield prevents the seals from creeping into any gaps or fissures in the pipe.





## Quick-Lock PRESSURE PIPE HD (heavy duty)

- Ⓢ permissible static pressure -0.9 bar to 50 bar / -13.05 psi to 725.19 psi
- Ⓢ permissible dynamic pressure -0.9 bar to 10 bar / -13.05 psi to 145.04 psi
- Ⓢ When using the Quick-Lock sleeve (non-walkable area) in pressurized pipelines (internal pressure), the pressure resistance can always only be guaranteed in conjunction with the use of a protector shield (around the outside of the seal). The protector shield prevents the seals from creeping into any gaps or fissures in the pipe.



## Which pipe materials are suitable?

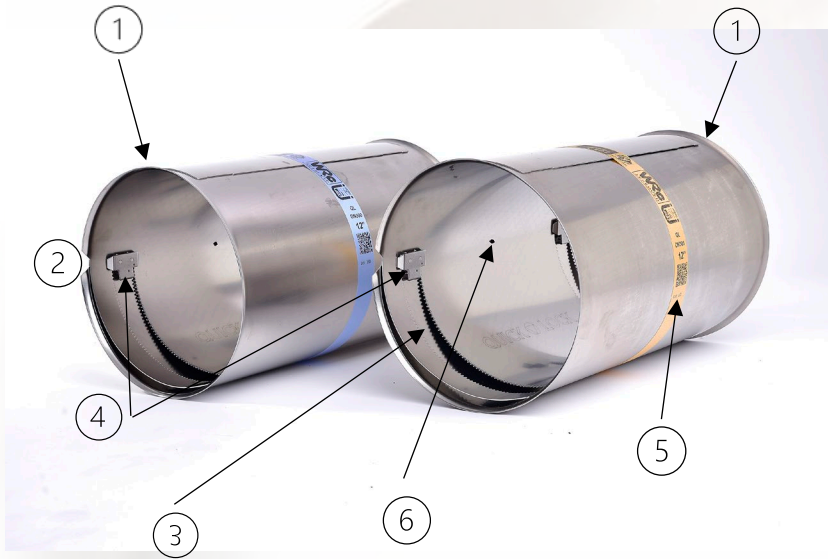
- ① all pipe materials used for pressurized pipelines, like...
- ① Plastic pipes  
(all types, like f. e. PVC, PE, PP, PP-HD,...)
- ① Fiberglass pipes and CIPP
- ① Cast iron pipes
- ① Carbon Steel pipes

Quick-Lock is conditionally suitable in the following cases:

- ① Pipes with bends and fittings

# Components of the Quick-Lock PRESSURE PIPE

## Stainless steel sleeve



- 1. Flared ends (only build **B2**)
- 2. metal overlap
- 3. Gear rack
- 4. locking mechanism
- 5. tape (HD blue, LD yellow)
- 6. plastic pin

## Rubber seal



- 7. sealing nubs
- 8. parting line
- 9. overlapping rubber (mandatory cut at parting line)

## Protector shield



- ⚠ Protector shield is mandatory



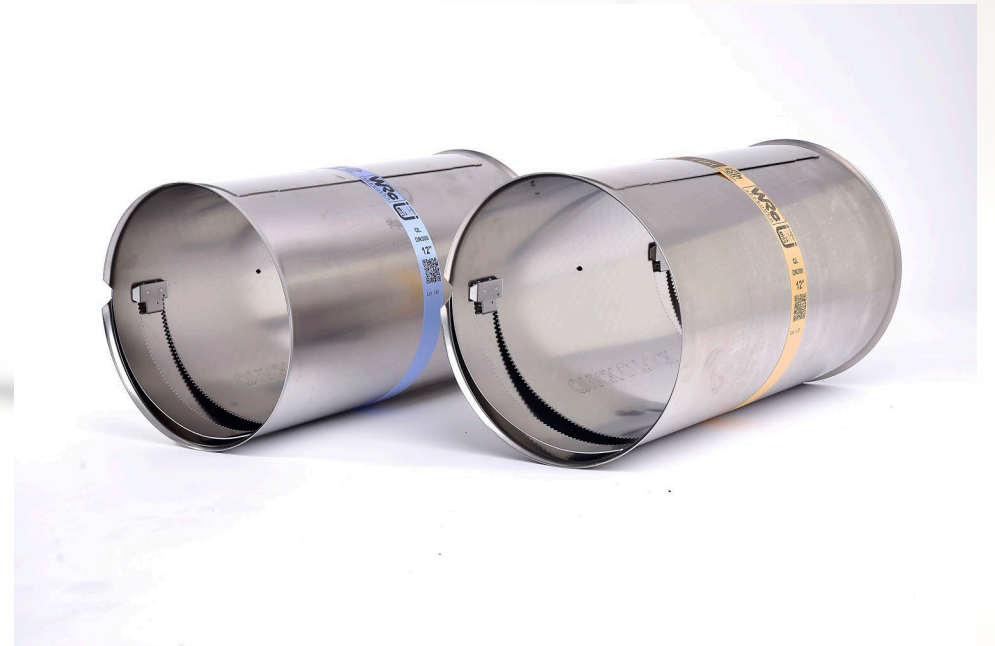
## Flared Ends

Flaring is the bending of both ends of the Quick-Lock PRESSURE PIPE with a flaring machine.

The aim is to stiffen the edges and to protect the seal.

Quick-Lock PRESSURE PIPE LD + HD

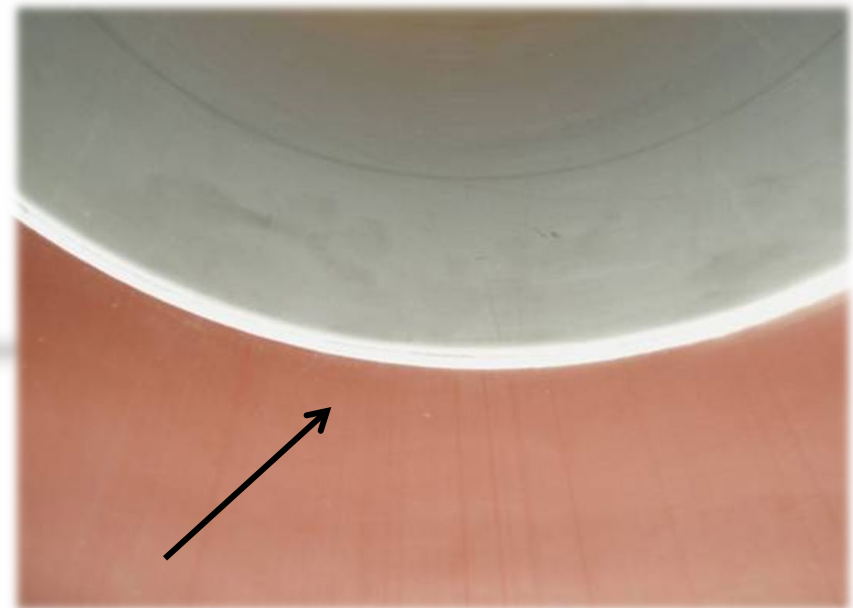
- Ⓢ **B2:** with flared ends on both sides  
for single installation
- Ⓢ **B1** = Build with flared end on one side  
for the beginnings or the ends of series
- Ⓢ **B0** = Build without flared ends  
for the middle of series



# Flared Ends

## Advantages

- ① the sleeve fits tightly to the host pipe
- ① no deposits at the edge of the sleeve
- ① protects the rubber seal between the steel sleeve and host pipe
- ① higher resistance against high pressure cleaning process



# The locking mechanism

- ① stronger Locks on the Quick-Lock PRESSURE PIPE
- ① higher sheet thickness of the steel
- ① no retraction of the steel sleeve
- ① the gears and the gear rack of the locking mechanism are designed for a „stepless“ expanding of the Quick-Lock





## Seals

Choose the proper rubber seal depending on medium in the pipeline and temperature:

☐ Silicone

☐ NBR



## Silicone-Seal

Shore hardness 40

Tensile strength 10.4 Mpa / **1508,38 psi**

Main features:

- ☑ non-toxic in contact with food
- ☑ **use for potable water pipelines**
- ☑ very good elasticity at very low temperatures
- ☑ temperature resistant from -60° to +210° / **-76° to 410° F**
- ☑ very good electro-insulating properties

Not resistant against:

- ☑ Silicone oils and greases, fuel
- ☑ steam with more than +120° / **248° F**



## NBR-Seal

Nitrile-Butadiene-Rubber

Shore hardness 35

Tensile strength 14.4 Mpa / **2088,53 psi**

Resistant against:

- ❖ Oil (hydraulic oil, mineral oil, petrol, heating oil, animal and vegetable oils)
- ❖ Butane, propane, methane, ethane
- ❖ Temperatures from -30° to +100° / - **22° to 212°F**
- ❖ good mechanical properties
- ❖ good to excellent gas and air impermeability

Not resistant against

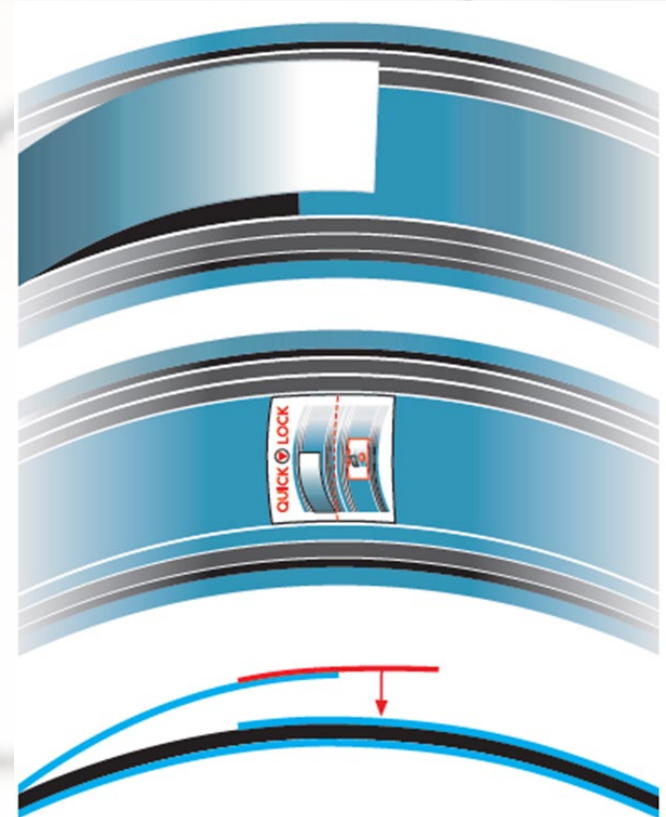
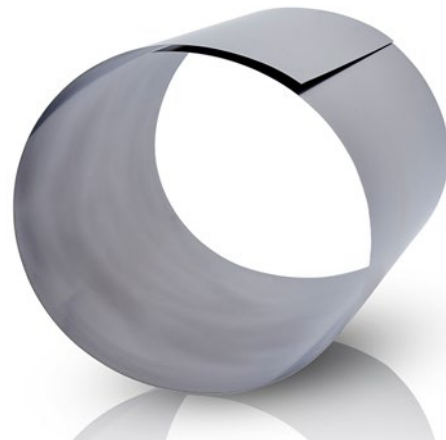
- ❖ Fuels with a high aromatic content





# The Protector shield

- ④ additional „external“ stainless steel sleeve between the host pipe and the seal.
- ④ placed between the sealing nubs
- ④ The protector shield prevents the seals from creeping into any gaps or fissures in the pipe.
- ④ Diameter rolled is smaller as diameter rolled of the Quick-Lock



## Application pressures

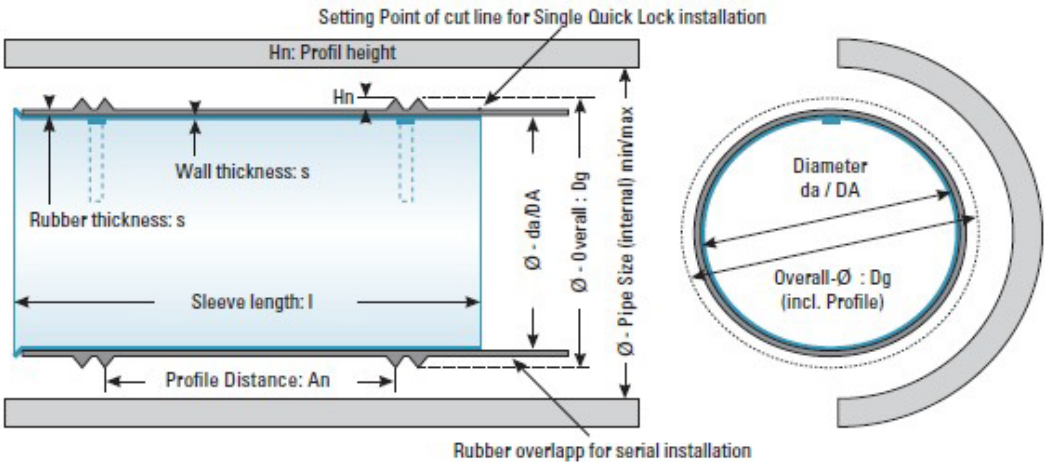
- ⚠ the application pressures depend on the type of the pipe, the type of damage and the diameter (see table in the installers manual)
- ⚠ always **expand slowly** because of the higher sheet thickness of the steel



QUICK LOCK

Technical Datasheet for PRESSURE PIPES (LD)

QUICK-LOCK DN 150- DN 800



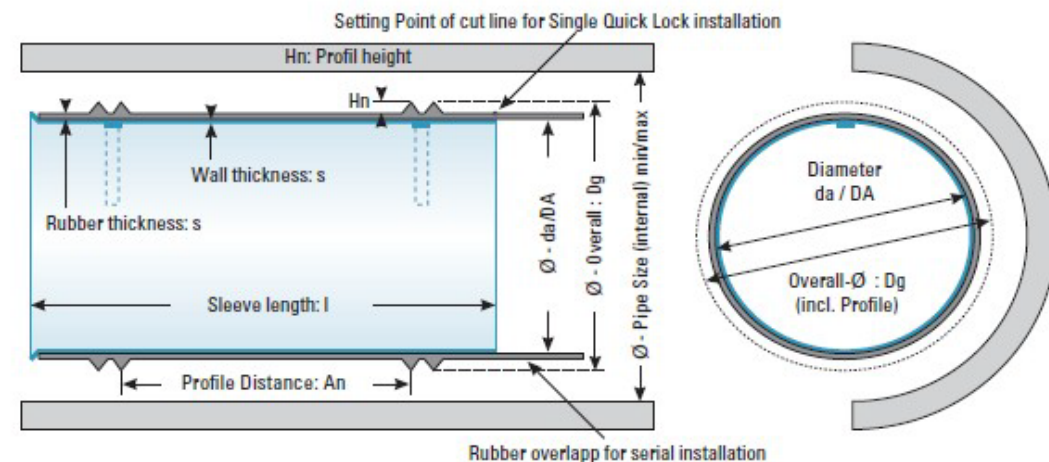
Quick-Lock	Silicone seal	sleeve length	total diameter rolled (with seal)	Suitable for pipes from / to		Stainless steal sleeve			Silicone-seal			Installationpacker	seal thickness incl. seal nubs	total weight (sleeve with seal)
				Pipe ID min.	Pipe ID max.	Wall thickness	Ø Pipe rolled	max. expanded diameter	seal-thickness	Height of seals	Height of seals			
mm DN	mm DN	mm l	mm DG	mm min DN	mm max DN	mm s	mm da	mm DA	mm s	mm Hn	mm An	VP	mm G	kg
150	150	400	130	147	155	1	118	148	2,0	4,0	315	VP 100-150 VFW	6	2,27



# QUICK LOCK

## Technical Datasheet for PRESSURE PIPES (HD)

### QUICK-LOCK DN 150- DN 800



Quick-Lock	Silicone seal	sleeve length	total diameter rolled (with seal)	Suitable for pipes from / to		Stainless steel sleeve			Silicone-seal			Installationpacker	seal thickness incl. seal nubs	total weight (sleeve with seal)
				Pipe ID min.	Pipe ID max.	Wall thickness	$\varnothing$ Pipe rolled	max. expanded diameter	seal-thickness	Height of seals	Height of seals			
mm DN	mm DN	mm l	mm DG	mm min DN	mm max DN	mm s	mm da	mm DA	mm s	mm Hn	mm An	VP	mm G	kg
150	150	400	130	147	155	1,2	118	148	2,0	4,0	315	VP 100-150 VFW	6	2,27

# Installation



Single installation

Length of damage **305 – 390mm / 12" – 15,35"**

(depending on the diameter of the pipe)

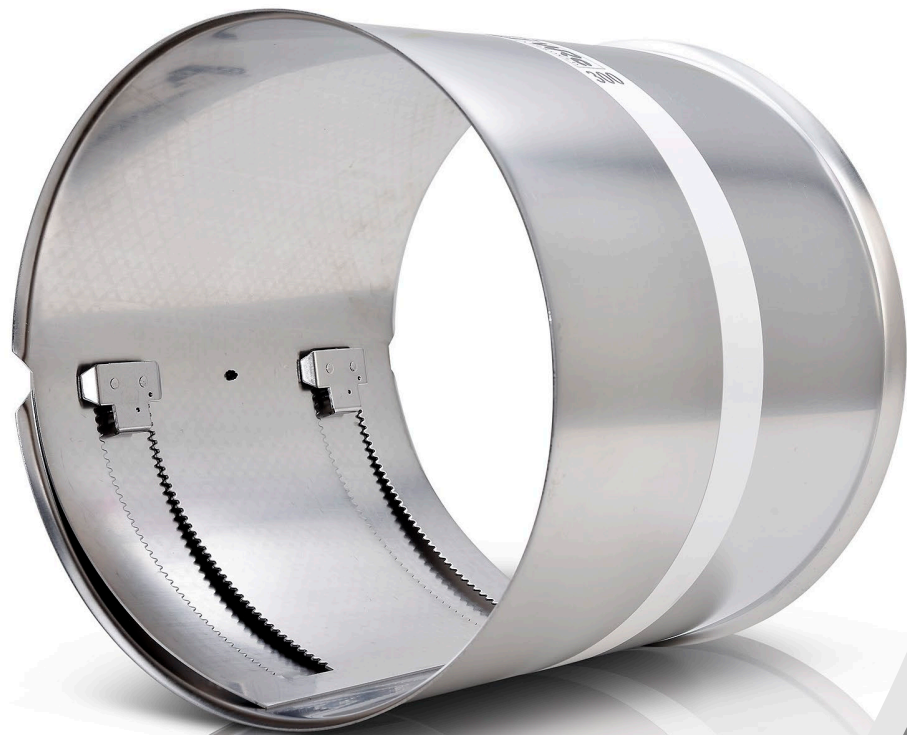
Serial installation possible



## Examples - Construction site







## 8. Quick-Lock LinerEnd PRESSURE PIPE LD + HD

## Quick-Lock LinerEnd PRESSURE PIPE LD (low duty)

- ① permissible static pressure -0.9 bar to 50 bar / -13.05 psi to 725.19 psi
- ① permissible dynamic pressure -0.4 bar to 3 bar / -5.80 psi to 43.51 psi
- ① the protector shield for LinerEnd is **optional**

## Quick-Lock LinerEnd PRESSURE PIPE HD (heavy duty)

- ⓪ permissible static pressure -0.9 bar to 50 bar / **-13.05 psi to 725.19 psi**
- ⓪ permissible dynamic pressure -0.9 bar to 10 bar / **-13.05 psi to 145.04 psi**
- ⓪ the protector shield for LinerEnd is **optional**



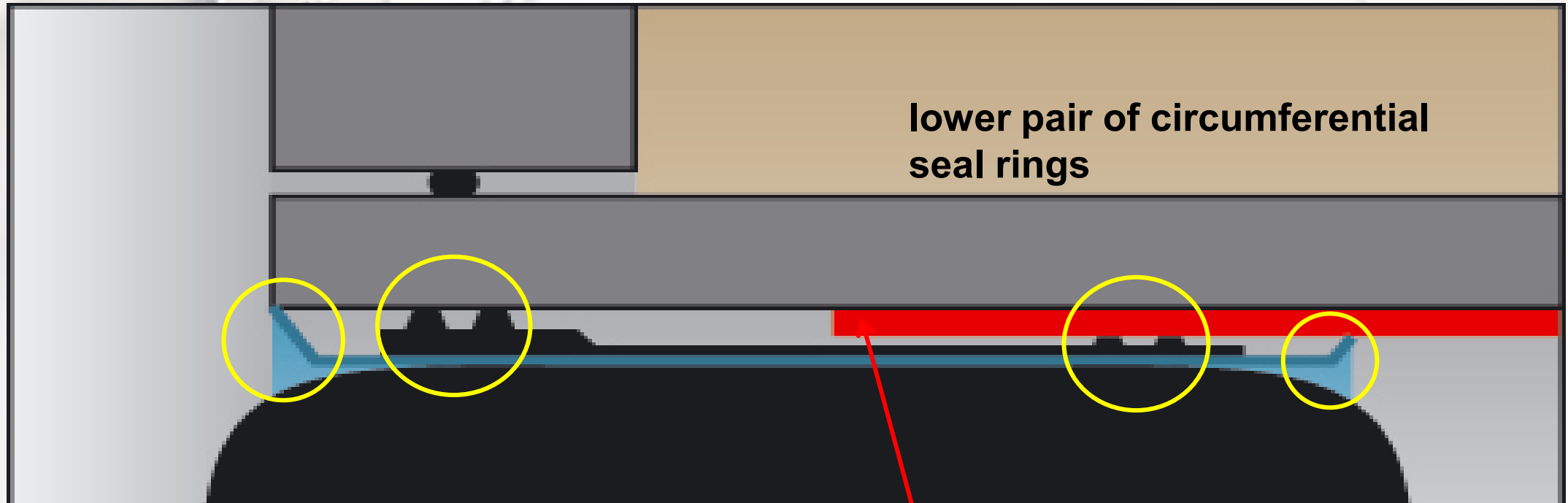
## The locking mechanism

- ① stronger Locks on the Quick-Lock LinerEnd PRESSURE PIPE
- ① higher sheet thickness of the steel
- ① no retraction of the steel sleeve
- ① The gears and the gear rack of the locking mechanism are designed for a „stepless“ expanding of the Quick-Lock.



## Connection with LinerEnd sleeve

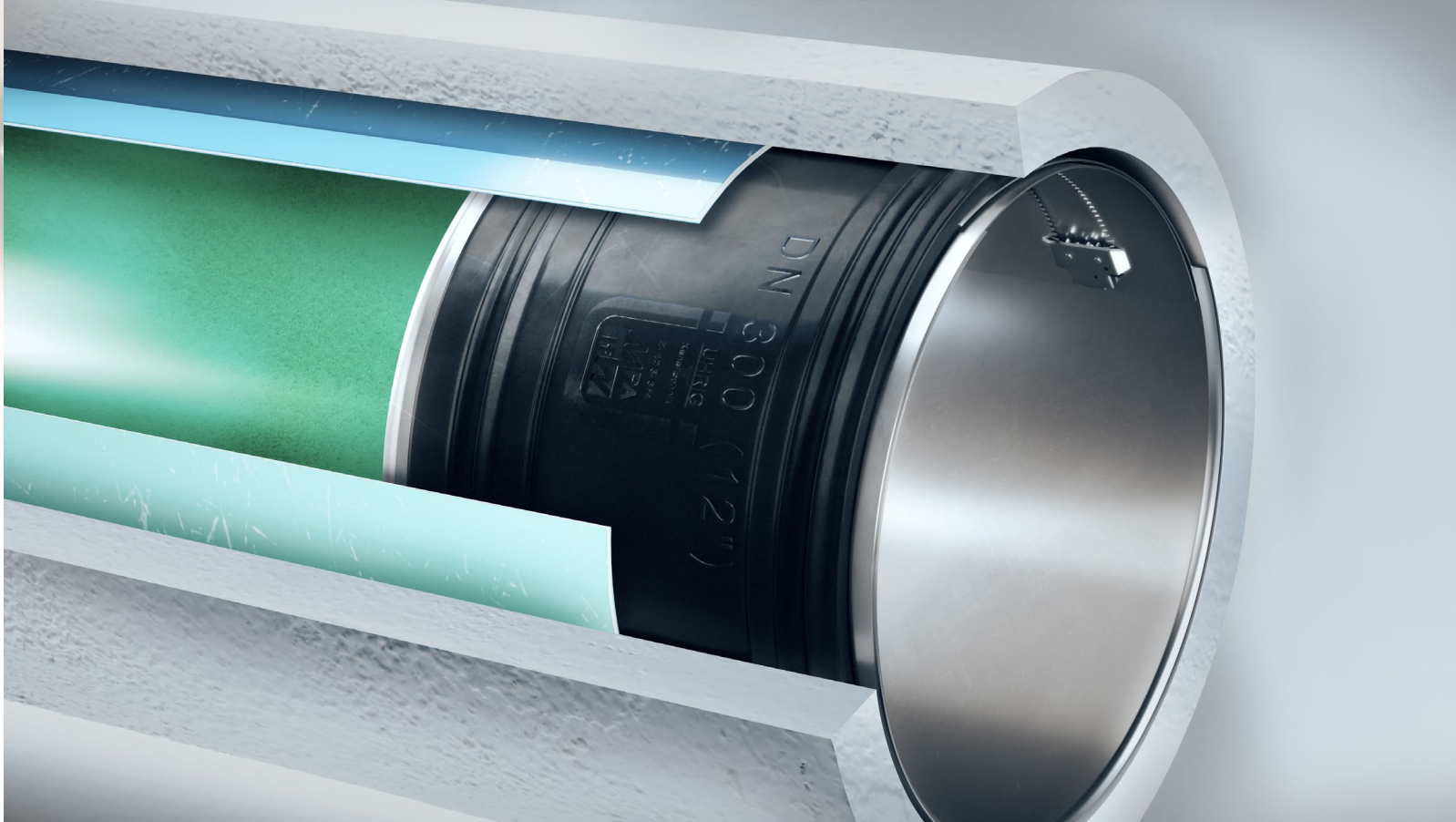
The key to balance the liner thickness in  
pressurized pipelines



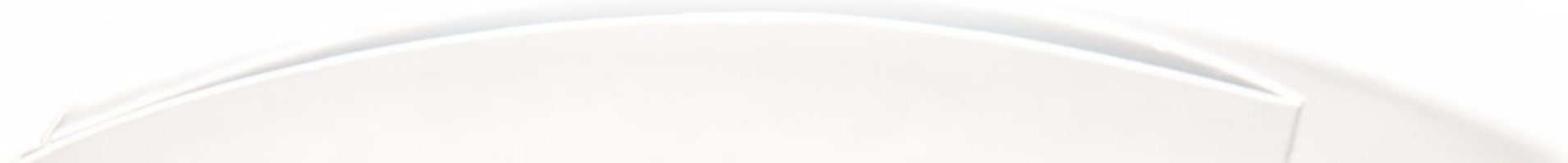
thicker pair of circumferential  
seal rings

CIPP Liner

# Propper connecton of the liner in the pressurized host pipe

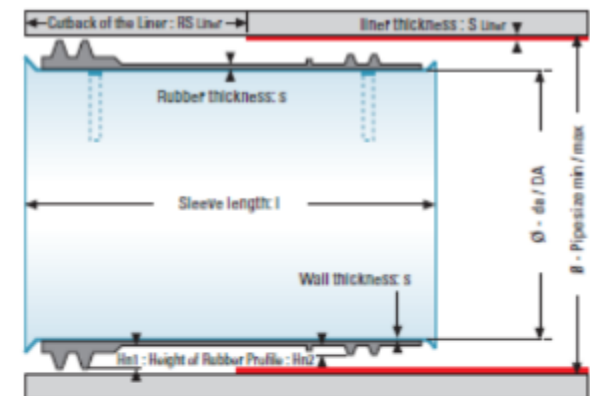






# QUICK LOCK

## Technical Datasheet for PRESSURE PIPES LinerEnd (LD)



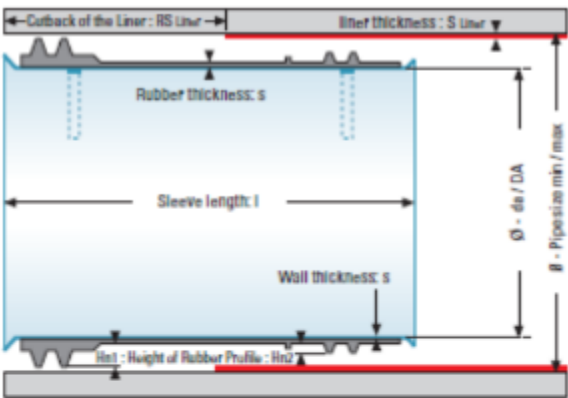
### QUICK-LOCK LinerEnd DN 150- DN 800

Quick-Lock LinerEnd	Silicone seal	sleeve length	total diameter rolled (with seal)	Suitable for pipes from / to		Stainless steal sleeve			Silicone-seal		Linerthickness min - max	Liner trim length	total weight (sleeve with seal)	
				Pipe ID min.	Pipe ID max.	Wall thickness	Ø Pipe rolled	max. expanded diameter	seal- thickness	Height of seals				
mm DN	mm DN	mm l	mm DG	mm min DN	mm max DN	mm s	mm da	mm DA	mm s	mm Hn1	mm Hn2	mm S Leiner	mm RS Liner	kg
150	150	250	137	146	160	1,0	119	146	2	9	4	3-8	130-140	1,33
175	175	250	160	171	190	1,0	142	175	2	9	4	3-8	130-140	1,90

# QUICK LOCK

## Technical Datasheet for PRESSURE PIPES LinerEnd (HD)

### QUICK-LOCK LinerEnd DN 150- DN 800



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				Pipe ID min.	Pipe ID max.	Wall thickness	Ø Pipe rolled	max. expanded diameter	seal- thickness	Height of seals				
mm DN	mm DN	mm l	mm DG	mm min DN	mm max DN	mm s	mm da	mm DA	mm s	mm Hn1	mm Hn2	mm S Liner	mm RS Liner	kg
150	150	250	137	146	160	1,2	119	146	2	9	4	3-8	130-140	1,33
175	175	250	160	171	190	1,2	142	175	2	9	4	3-8	130-140	1,90

## Approvals and certificates

- ▼ Siebert & Knipschild testing institute
- ▼ FH Münster University of Applied Sciences (internal test series) - Pressure Test
- ▼ KTW Approval Drinking water
- ▼ NSF - Certificate



- ▼ Silicone and NBR proof of resistance
- ▼ Silicone and NBR technical data sheet
- ▼ Data sheets stainless steel
- ▼ ASTM approval





# Quick-Lock BIG

QUICK  LOCK

# First installation of Quick-Lock BIG DN 3000



- Client: City of Aachen
- Supporting engineering firm: Ingenieurbüro H. Berg & Partner GmbH
- Contracting companies: Aarsleff GmbH and HS Kanalsanierung GmbH
- Storage sewer for rainwater in the Vaalserquartier district of Aachen
- Leaks at the joints and heavy infiltration
- Several Quick-Lock Big sleeves were installed as the best solution.



## Pictures of the BIG DN 3000 construction site





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- ▼ Silicone and NBR proof of resistance
- ▼ Silicone and NBR technical data sheet
- ▼ Data sheets stainless steel
- ▼ ASTM approval

UHRIG



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#Quick-News



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Khaled Mhimdi  
Mark André Haebler



Homepage



**Thank you  
for your  
attention!**