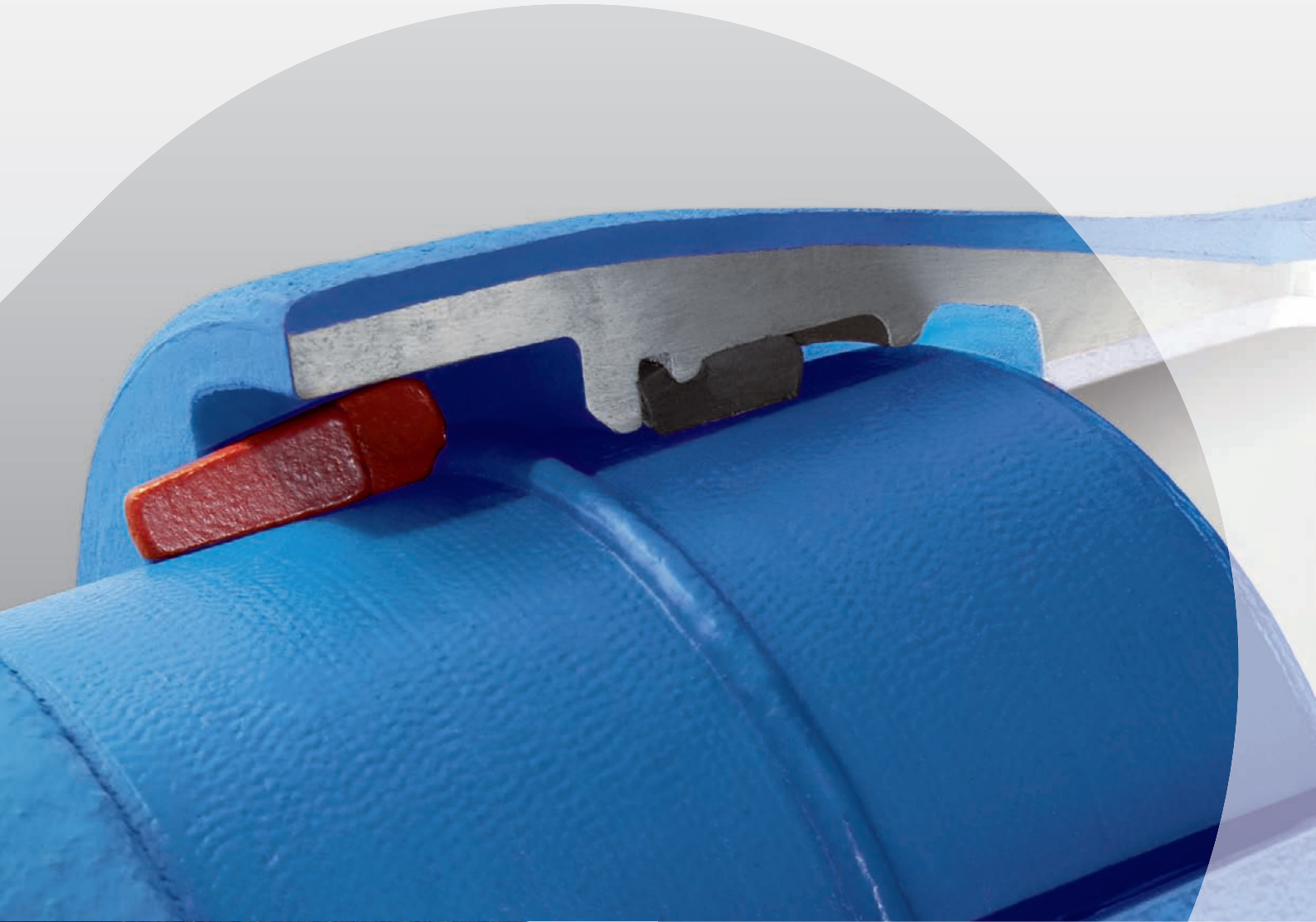
DUKTUS

Ductile iron pipe systems with

BLS® restrained joints



- Operating pressures up to 100 bars
- No thrust blocks needed
- Quick and easy to assemble
- Suitable for trenchless laying techniques
- Comprehensive range of fittings

Technical data

The BLS® joint
is a socket joint which operates on the basis of positive interengagement and which is restrained against longitudinal forces. Forces generated by internal pressure or external loads are absorbed by the pipeline and transferred to the surrounding soil by skin friction. Forces are transmitted between the individual pipes by means of a weld bead on the spigot end of the pipe or fitting. Via a mechanical lock, the weld bead transmits the forces into the locking chamber in the next pipe.

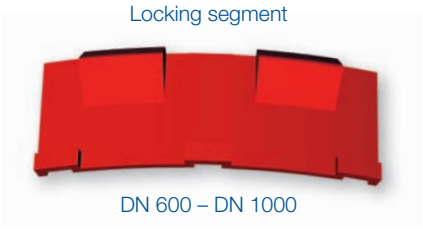
Extremely high forces which would cause damage to the majority of other joints can be transmitted in this way. For example, depending on the nominal size, operating pressures of more than 100 bars or permitted tractive forces of up to 2000 kN can be obtained.

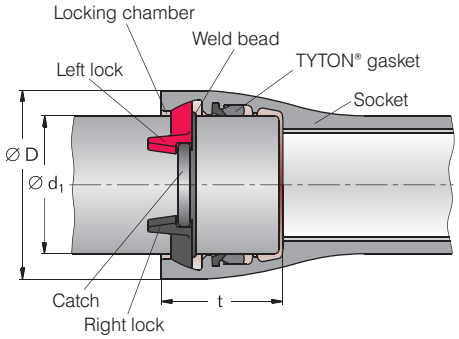
Even though the BLS® joint is able to withstand extremely high loads, it is still flexible, easy and particularly quick to assemble.

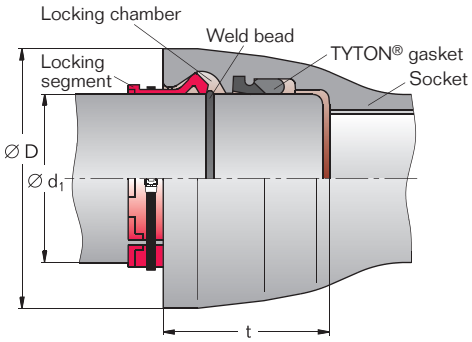
The joint will accept an angular deflection of up to 5° and a pipe string can thus be laid or pulled in to a radius of only 69 m – without fittings and without thrust blocks. The very short assembly times of around 5 minutes for the DN 80 size to a maximum of 30 minutes for the DN 1000 size do everything else that is needed to make the BLS® joint the joint that can be used almost anywhere with cast iron pipes.

One of the greatest advantages of the BLS® joint is the clamping ring. Normally, to give a positively interengaged joint, a weld bead would have to be applied retrospectively to the cut end when pipes are cut. On pipes of nominal sizes from DN 80 to DN 500 this can be almost entirely avoided by using the clamping ring.

As a system, the BLS® joint is available with a comprehensive range of fittings and with gate valves, butterfly valves, hydrants and air-bleeders.







BLS® jointed valved tee with butterfly valve and gate valve

Pipe relining

Areas of application

- As a replacement for concrete thrust blocks
- For angular deflections of up to 5°
- For operating pressures up to 100 bars
- Wide range of fittings, inc. gate valves, butterfly valves, hydrants, etc.
- High-pressure applications
- Pipe systems for snow-making facilities
- Turbine pipelines
- Fire-extinguishing pipes
- Culvert pipelines
- Bridge pipelines
- Collector pipes
- Trenchless laying
- Horizontal direction drilling (HDD)
- Ploughing-in with a rocket plough
- Press-pull technique/auxiliary tube technique
- Burst lining
- Pipe relining

DN	d_1 [mm]	D [mm][1)]	t [mm]	Component operating pressure PFA [bar][2)]	Permitted tractive force F [kN][3)]	Permitted angular deflection [°]	Number of locking segments
80[5)]	98	156	127	100/110[4)]	115	5	2/3[4)]
100[5)]	118	182	135	75/100[4)]	150	5	2/3[4)]
125[5)]	144	206	143	63/100[4)]	225	5	2/3[4)]
150[5)]	170	239	150	63/75[4)]	200	5	2/3[4)]
200	222	293	160	42/63[4)]	350	4	2/3[4)]
250	274	357	165	40/44[4)]	375	4	2/3[4)]
300	326	410	170	40	380	4	4
400	429	521	190	30	650	3	4
500	532	636	200	30	860	3	4
600	635	732	175	32	1525	2	9
700	738	849	197	25	1650	1.5	10
800	842	960	209	16/25[5)]	1460	1.5	10
900	945	1073	221	16/25[5)]	1845	1.5	13
1000	1048	1188	233	10/25[5)]	1560	1.5	14

1) Guideline value; 2) Operating pressure (PFA): allowable component operating pressure in bars. Basis for calculation was wall-thickness class K9, up to and including DN 250 with high-pressure lock;
3) When pipelines follow straight paths (max. deflection of 0.5° per pipe joint), the tractive forces can be raised by 50 kN. High-pressure locks are required for DN 80 - DN 250.
4) with high-pressure lock 5) Wall-thickness class K10

Floating in a ductile cast iron pipeline

Temporary pipeline with BLS® joints

Sustainably superior –
ductile iron pipe systems.

Your contacts

For the full picture visit www.duktus.com/en/contact

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