



## Purpose

The company performs diagnosis and overhaul of drill pipes using a unique technology of metal build-up on the surface of interlocking parts.

## In the process of overhauling

of the drill pipes the following operations are carried out:

- mechanical cleaning of the outer and inner surfaces of the pipe;
- diagnostics of smooth pipe wall thickness by ultrasonic flaw detection;
- determination of the geometric parameters of the surfaces of the interlocking and threaded parts;
- straightening of pipes in order to restore straightness;
- metal build-up welding on the surface of the locks with their extension along the pipe body using a unique patented technology;
- machining of the build-up surfaces of locks until their dimensions are fully restored;
- re-cutting of threaded parts on state-of-the-art CNC machines.

## Advantages

- The main advantage of the proposed technology is the restoration of the interlocking part of the onworn pipe to the condition of a new pipe. The built-up metal is precisely matched in its properties to the quality of the pipe interlock metal, as a result of which the wear resistance of the restored surfaces is not inferior to the new pipes, and machining of the built-up surfaces is carried out until a full recovery of the geometric dimensions as per GOST 28487.
- The entire technology for building-up the interlock parts is realized on specially designed equipment installed in the process train has the appropriate certificates and permissions for application.

### Range and schedule-sizes of drill pipes to be repaired and basic dimensions

Schedule-size		Thread	External thread diameter as per GOST 50278-92, in.	Outside upset diameter as per GOST 50278-92, in.	Lock outside diameter after repair as per GOST 27834-95	Pipe wall thickness, in.			Length of the cylindrical part after repair, in. not less	
pipes	lock					as per GOST 27834-95	repaired, not less than		pin	box
	GOST 27834-95						1st class	2nd class		
PV-73x9	ZP-95-32	Z-73	2.87	3	3.75	0.36	0.29	0.23	5.58	6.59
PN-73x9	ZP-105-54	Z-86	2.87	3.19	4.13	0.36	0.29	0.23	5.58	7.13
PV-89x9	ZP-108-44	Z-86	3.5	3.63	4.2	0.37	0.29	0.23	5.58	7.13
PV-89x11	ZP-108-41	Z-86	3.5	3.63	4.2	0.45	0.35	0.28	5.58	7.13
PN-89x9	ZP-121-68	Z-102	3.5	3.87	4.75	0.37	0.29	0.23	5.58	7.63
PN-89x11	ZP-127-65	Z-102	3.5	3.87	5	0.45	0.35	0.28	5.58	7.63
PK-114x9	ZP-159-83	Z-132	4.5	4.69	6.25	0.34	0.27	0.21	5.58	8.49
PK-114x11	ZP-159-76	Z-122	4.5	4.69	6.25	0.43	0.34	0.27	6.34	8.49
PK-114x9	ZP-162-95-1	Z-133	4.5	5	6.37	0.34	0.27	0.21	6.28	8.49
PK-114x11	ZP-162-92	Z-133	4.5	5	6.37	0.43	0.34	0.27	6.34	8.49
PK-127x9	ZP-162-95-2	Z-133	5	5.1	6.37	0.5	0.4	0.31	6.22	8.49
PK-127x13	ZP-162-89-2	Z-133	5	5.1	6.37	0.5	0.4	0.31	6.5	8.49
PN-127x9	ZP-178-102	Z-147	5	5.69	7	0.36	0.29	0.31	6.84	9.02
PN-127x13	ZP-178-102	Z-147	5	5.69	7	0.5	0.4	0.31	6.84	9.02

