



# ZAO LISKIMONTAZHCONSTRUKCIA



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**2015**



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## PIPE WELDING LINE PROJECT

The theme of the project - Development of production of electrowelded straight seams pipes increased strength large diameter material categories strength to X120, intended for the construction of large gas and oil pipelines in the conditions low Temperature, as well as the construction of deep-sea pipelines and to shelf field development.



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## PIPE WELDING LINE PROJECT

The purpose of the project - production and sale of thick-walled pipes with diameters from 406 to 1420 mm thick walls up to 60 mm of high-strength steels X120 for main oil and gas pipelines laid in harsh Arctic conditions for offshore development and gaskets offshore pipelines.

In Russia, no longer produced or maintained analogues of this equipment.

(RF Government Resolution №350 dated 17.04.2014).

Production capacity of the plant under construction - up to 120 ths. tons of pipes per year.

Long-term investments in the amount of 4.322 billion. Rub .:

- development of design estimate documentation:

term - 1st half 2015. the amount of -35,000,000. rub.

-Building and structures erected on the approved project  
period of 2015. - 1st half of 2016. the amount of -700 000 000. rub.

- Equipment

term - 1st half 2016. the amount of -3.5 billion. rub.

- Other costs -87,000,000. Rub.

The result of the project

- Supply pipes of increased strength in the domestic market in the amount of 120 thous. tons per year in the amount of 20-25 bln. to create a pipeline transportation systems.

- Employment in the production of about 250 jobs, training workers, increase in labor productivity.

Payback period -5 years.

The main customers are the largest oil and gas companies such as "Gazprom", "Transneft", TNK, Surgutneftegas, OAO NK "Rosneft".



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## Composition of the production process

Flow process of welded pipes from high-strength steels X120 includes the following transitions and equipment:

### 1. Procuring range of equipment for pipe rough stock:

- Monitoring continuity of material profile rolled steel;
- Mechanical processing ends with the preparation of the sheet edges for welding;
- overcast edges of the parent sheet;
- Flexible slab to produce tubing stock for welding;

### 2. The complex of equipment for welding pipe:

- Pre- welding of tack weld;
- Heating the material of the weld zone;
- Welding the internal weld submerged;
- Mechanical cleaning of the outer zone of the weld;
- Cleaning of the inner surface of the pipe from the flux of scale;
- Welding the outer seam of the pipe submerged;
- Trimming the ends (pin strips) at the ends of pipes;

### 3. The calibration range of calibration equipment for welded pipes

- Impounding (external compression) along the entire length of the pipe;
- expanding (internal distribution) along the entire length of the pipe;
- Making chamfer and rings at the end of blunting pipes;

### 4. Control and measuring system equipment:

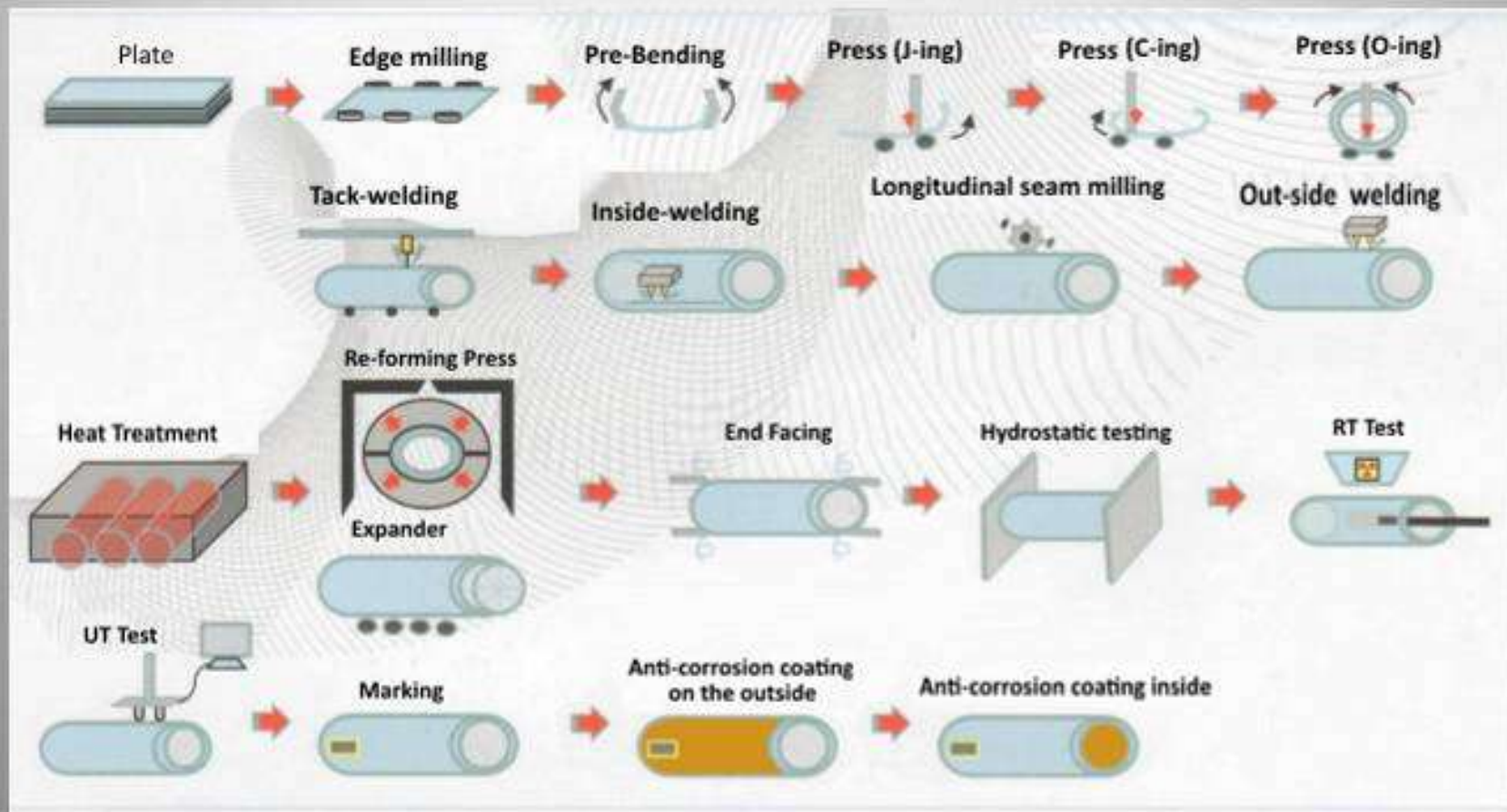
- Hydrostatic tubes test;
- Ultrasonic testing of welded joints;
- X-ray inspection of welds;
- Control of geometrical parameters
- Marking of pipes;

### 5. Complex equipment anticorrosive coating 2015



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## Scheme of the production process





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## Production process

### Edge milling machine



Edge milling



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Production process

## Pre Bending Machine



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## Production process

Incremental forming Press capacity 12000 tf



Analogs of such equipment not produced in Russia and are not exploited

Press (J-ing)



Press (C-ing)



Press (O-ing)



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Production process

## Tack Welding Machine



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## Production process

### Inside Welder Machine



Inside Welding



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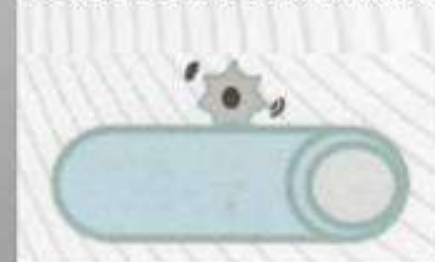
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## Production process

### Long seam milling Machine



Longitudinal seam milling



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## Production process

### Outside Welder Machine



Out-side welding



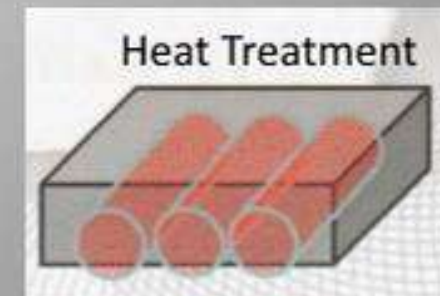
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## Production process

### Heat Treatment Machine



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Production process

Expander Machine



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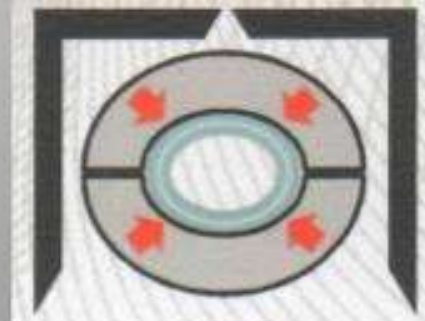
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Production process

## Calibration Press Machine



Re-Forming Press



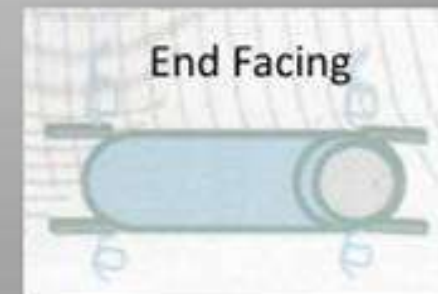
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## Production process

### End Facing Machine



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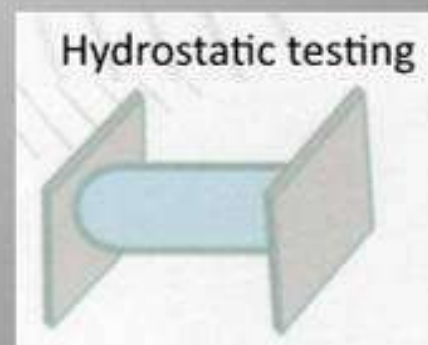




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## Production process

### Hydrostatic Tester Machine



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## Production process

### X-Ray Tester Machine



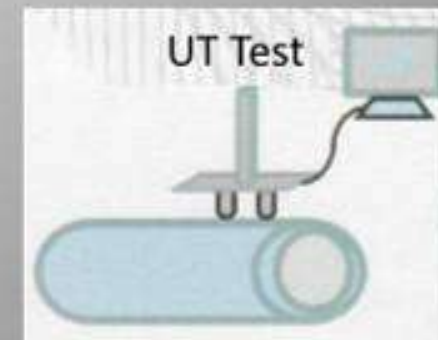
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## Production process

### Ultrasonic Tester Machine



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## Production process

### Corrosion-resistant coating Machine



Corrosion-resistant coating on the outside



Corrosion-resistant coating inside



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