

Large diameter pipes

LDPs are manufactured by Vyksa Steel Works, one of the key plants within OMK.

Product range:

- SAWL pipes \varnothing 508 - 1422 mm (20-56"), wall thickness up to 50 mm (1.97");
- ERW pipes \varnothing 508 - 530 mm (20-21").

Standard length of all pipes is from 11.6 to 12.2 m (38 - 40 ft).

At customer's request, VSW will supply pipes with external three- and two-layer anti-corrosive coating and internal flow or anti-corrosive coating. Pipes are certified by American Petroleum Institute according to API Spec 5L (License No. 5L-0276) ISO and according to Shell requirements.

In 2007 a compliance certificate was issued for VSW products according to Det Norske Veritas requirements, DNV-OS-F101 standard for offshore pipeline systems. This allowed OMK to win an international tender for supply of 280 thousand tons of pipes with diameter of 1220 mm (48") and wall thickness 30.9, 34.6 and 41.0 mm (1.2", 1.4", 1.6") in 2008-2009 to construct an offshore section of the Nord Stream gas pipeline on the Baltic Sea bed. Currently VSW has won a tender for supply of 440 thousand tons of pipes with diameter of 813 mm (32") and wall thickness 39 mm for an offshore section of the South Stream Project (1,2 lines) gas pipeline on the Black Sea bed, and has already started deliveries.

Basic Equipment

Pipes are produced on two separate lines using different production methods - UOE Line and JCO Line.
Pipes can be made with either one or two longitudinal welds.

UOE Line

Produces pipes with diameter of 508 - 1067 mm (20-42") and wall thickness from 8 to 32 mm (0.28-1.26"), strength grade X80. Design capacity is 1012 thousand tons of pipes per year.

JCO Line

Produces pipes with diameter of 508 - 1422 mm (20-56") and wall thickness from 8 to 48 mm (0.28-1.89"), strength grade up to X100, and working pressure up to 24.7 MPa (250 atm.). Design capacity is 950 thousand tons of pipes per year.

Product range and scope of application

Standard	Outside dia., inches (mm)	Wall thickness, mm	Steel grade	Scope of application
API Spec 5L / ISO 3183	20" (508) - 56" (1422)	8.0 - 48.0	Strenght class Gr.B - X100 Steel L245 - L555	For construction of gas and oil pipelines, water transportation systems both in oil and gas industry
DNV-OS-F101	20" (508) - 56" (1422)	8.0 - 48.0	Steel L245 - L555	Subsea pipe systems used in the oil and gas sector
DIN 10217	20" (508) - 56" (1422)	8.0 - 40.0	Steel P235 - P265	Multi-purpose pipes
DIN 10219	20" (508) - 56" (1422)	8.0 - 40.0	Steel S235 - S460	Multi-purpose pipes

Producing mill: Vyksa Steel Works

Production of large diameter SAWL pipes

- Longitudinal electric-welded large diameter pipes are manufactured by submerged arc welding (SAW).
- At present large diameter pipes can be manufactured by two independent lines having different pipe forming processes: UOE and JCO.

API Spec 5L, ISO 3183

Diameter																															
inch		0.316	0.344	0.375	0.406	0.438	0.469	0.500	0.562	0.625	0.688	0.750	0.812	0.875	0.938	1.000	1.062	1.125	1.188	1.250	1.312	1.375	1.438	1.500	1.562	1.653	1.732	1.771	1.811	1.890	1.968
mm		8.0	8.7	9.5	10.3	11.1	11.9	12.7	14.3	15.9	17.5	19.1	20.6	22.2	23.8	25.4	27.0	28.6	30.2	31.8	33.3	34.9	36.5	38.1	39.7	42.0	44.0	45.0	46.8	48.0	50.0
20	508.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
22	559.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
24	610.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
26	660.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
28	711.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
30	762.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32	813.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
34	864.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
36	914.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
38	960.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	1016.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
42	1067.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
44	1118.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
46	1168.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
48	1219.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
52	1321.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
56	1422.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

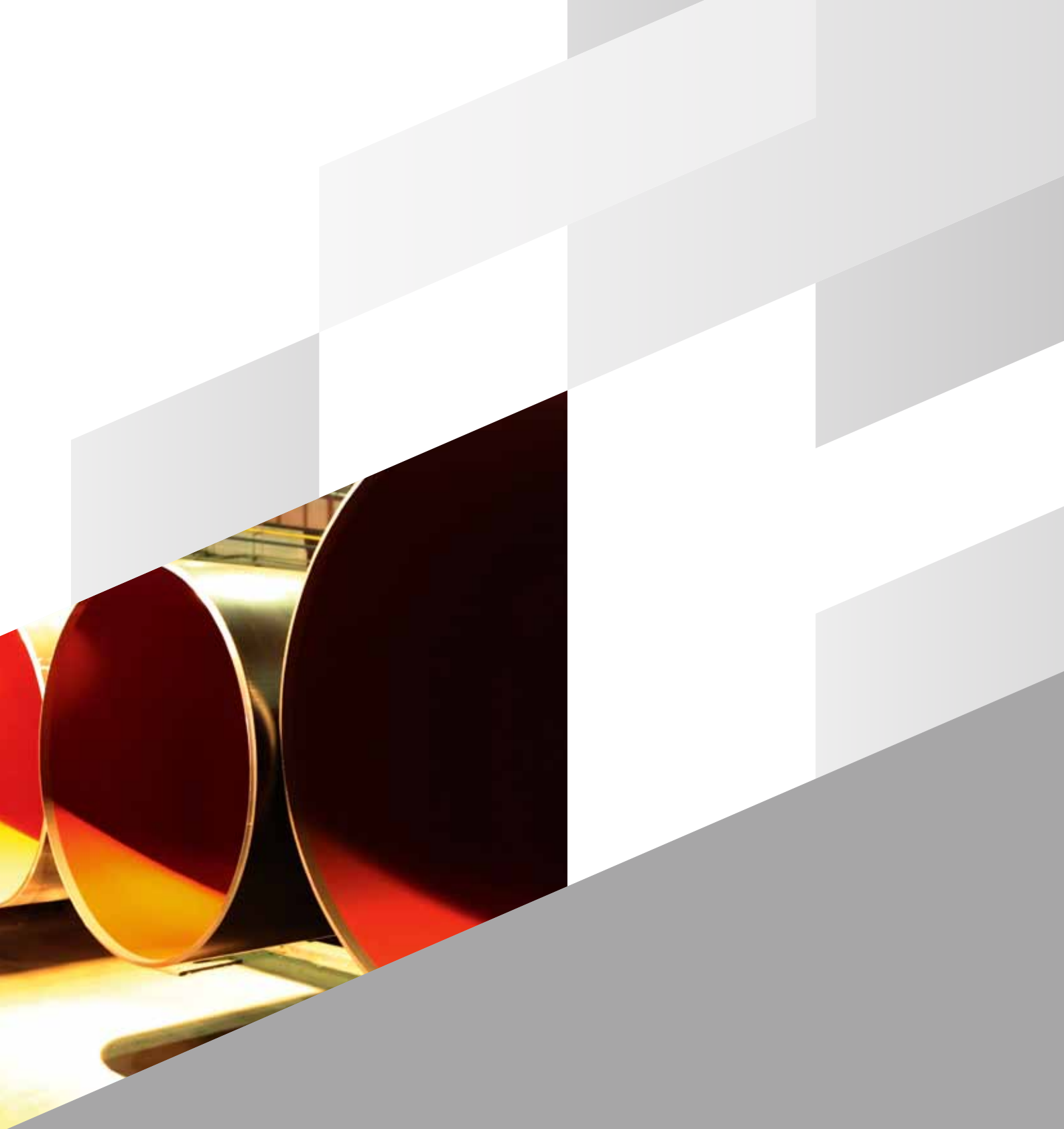
- UOE and JCO process: pipes are manufactured from B, X42, X46, X52, X56, X60, X65, X70, X80 (API Spec 5L) and L245, L290, L360, L415, L450, L485, L 555 (ISO 3183) grades.
- JCO process: pipes are manufactured from B, X42, X46, X52, X56, X60, X65, X70, X80 (API Spec 5L) and L245, L290, L360, L415, L450, L485, L 555 (ISO 3183) grades.



Technical characteristics of pipe coating

Standard	Pipe diameters, mm	Application, intended use	Allowable temperature for coating long-term service, °C	Allowable pipe storage temperature, °C	Coating structure	Coating thickness
DIN 30670	57 - 1420	Pipeline steel surface corrosion protection. For onshore and offshore pipelines.	Normal performance «N», up to plus 50 °C Special performance «S», up to plus 70 °C	From minus 60 °C up to plus 60 °C	External twolayer/ three-layer polyethylene	1.8-3.0 mm
NFA 49710	219 - 1420	Corrosion protection of onshore pipelines. For fluids transportation.	From minus 20 °C up to plus 70 °C	From minus 60 °C up to plus 60 °C	External threelayer polyethylene	1.2-3.5 mm
CAN/CSA Z 245/21-02	219 - 1420	Corrosion protection of onshore and offshore pipelines. For oil and gas transportation.	From minus 20 °C up to plus 80 °C	From minus 60 °C up to plus 60 °C	External twolayer/ three-layer polyethylene	2.0-3.5 mm
Shell DEP 31.40.30.31-Gen	508 - 1420	Corrosion protection of onshore and offshore pipelines. For oil and gas transportation.	Allowable temperature for coating long-term service - determined by selection of coating system.	From minus 60 °C up to plus 60 °C	External threelayer polyethylene or polypropylene	2.5-3.7 mm
DNV RP-106	508-1420	For offshore pipelines	According to Customer's requirements	According to Customer's requirements	External threelayer polyethylene or polypropylene	According to Customer's requirements
DIN 30678	219 - 1420	Pipeline steel surface corrosion protection. For onshore and offshore pipelines.	From minus 20 °C up to plus 100 °C	From minus 20 °C up to plus 60 °C	External threelayer polypropylene	1.8-2.5 mm
NFA 4911	219 - 1420	Corrosion protection of onshore and offshore pipelines. For oil and gas transportation.	From minus 20 °C up to plus 110 °C	From minus 20 °C up to plus 60 °C	External threelayer polypropylene	1.2-2.5 mm
Projects and tenders	219-530	For onshore pipelines	From minus 60 °C up to plus 60 °C	From minus 60 °C up to plus 80 °C	External onelayer/ two-layer flow coating	Up to 1400 microns
API 5L2 (RP5L2)	508 - 1420	Internal flow coating of pipes for noncorrosive gases transportation.	From minus 20 °C up to plus 110 °C	From minus 20 °C up to plus 60 °C	Internal flow coating	At least 50 microns
ISO 15741	508 - 1420	Internal flow coating of onshore and offshore pipes for transportation of non-corrosive gases.	From minus 20 °C up to plus 110 °C	From minus 20 °C up to plus 60 °C	Internal flow, up to plus 110 °C	60-100 microns





UNITED
METALLURGICAL
COMPANY

JSC "United Metallurgical Company"

Ozerkovskaya naberezhnaya, 28, bld. 2, Moscow, 115184, Russia
Tel.: +7 (495) 231-77-71; fax: +7 (495) 231-77-72
e-mail: steel@omk.ru; www.omk.ru