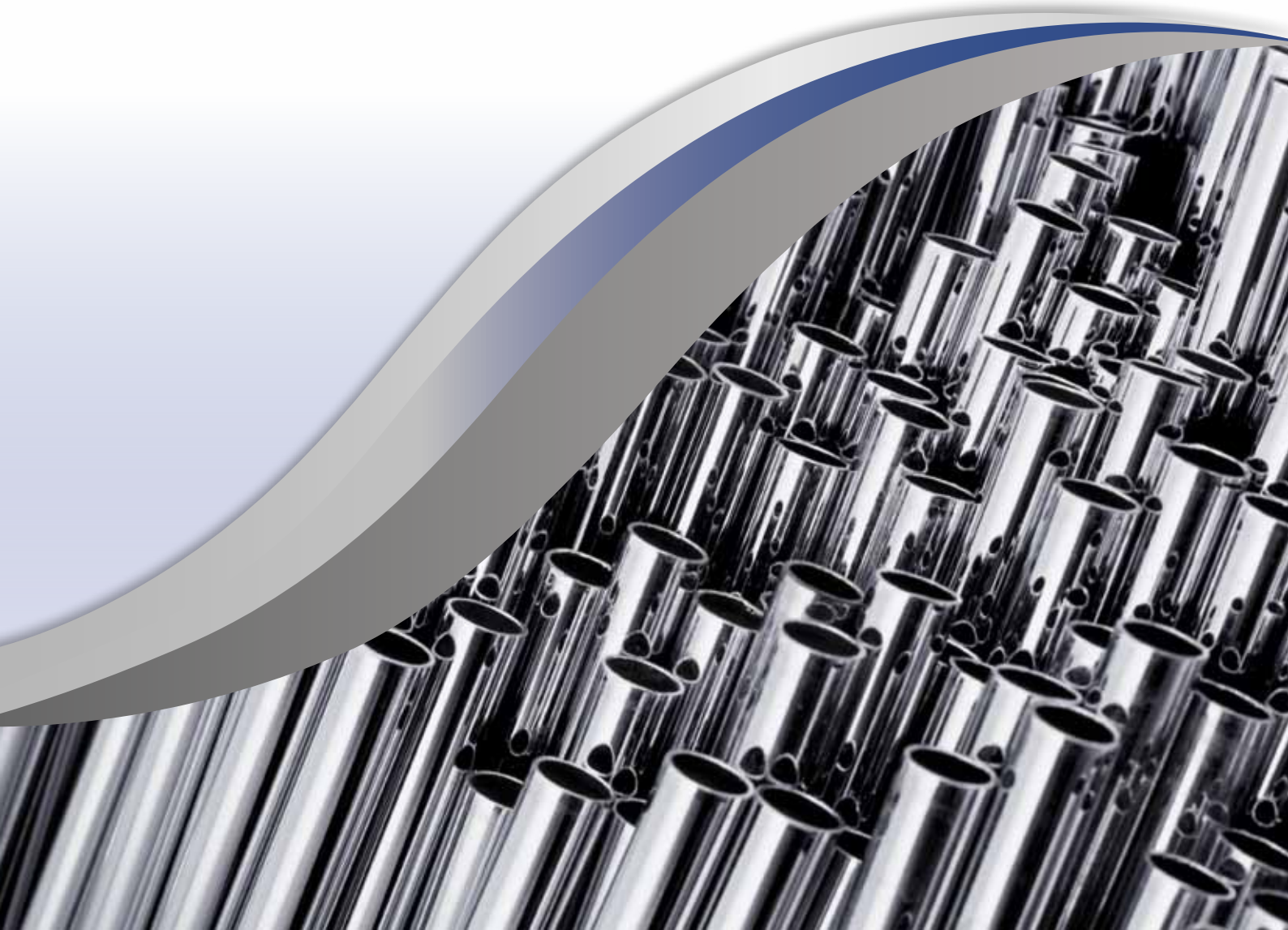




Product catalogue

Hot-rolled small diameter
seamless steel tubes



Walcownia Rur Andrzej

Our competitive edge: comprehensive offer

Alchemia Capital Group has the most wide-ranging offer of seamless steel pipes on the Polish market. The Group's comprehensive offer includes pipes of diameters from 21,3 to 508 mm, which enables the Customer to order a whole range of pipes in one place. As Alchemia Group, we attach great importance to the quality of our products. Their high quality is guaranteed by the implemented and constantly improved Quality Management System ISO 9001:2000 standard, additionally confirmed by BVQI certificate. The quality has been confirmed by certificates of the following inspection organizations: Lloyd's Register of Shipping, Germanischer Lloyd, PRS, DNV. Laboratorium Badań Batory, the research and development centre of the Group equipped with modern analytical and measurement equipment guarantees the quality of the products is infallible.

Walcownia Rur Andrzej (WRA), a part of Alchemia Capital Group, is the only Polish producer of hot-rolled, seamless steel tubes of diameters starting from 21,3 mm up to 114,3 mm and of wall thickness ranging from 2,0 mm to 10 mm. It manufactures: line pipes for transportation, structural tubes, boiler tubes, gas pipes, tubes for shipbuilding and tubes for threading. They are used in construction, energy sector, shipbuilding and gas industry. About 25% of WRA's output is exported, mainly to Germany, Spain, Slovakia and the United States.

The process production in Walcownia Rur Andrzej is based on Ehrhardt method. Within last years series of modernizations improving process effectiveness have been implemented in order to meet Customers' needs. A new reducing mill has been installed, heating units and main aggregate roll lines have been upgraded. WRA also owns a rail side-



track which enables it to offer a comprehensive order service. WRA's advantage is a specialized laboratory, which according with regulations and standards, or as agreed with the Customer, performs chemical composition analysis and the following tests: strength tests in room and increased temperature, technological, impact strength in room and lowered temperature, hardness, macro- and microscopic metallographic and non-destructive tests. The lab, which cooperates with Laboratorium Badań Batory, offers a broad range of tests which determine product properties required by norms.

High quality

Walcownia Rur Andrzej has implemented the Quality Management System ISO 9001:2000 standard, additionally confirmed by Bureau Veritas Certification. The quality has been confirmed by certificates of the following inspection organizations: Office of Technical Inspection (UDT), Lloyd's Register of Shipping (LRS), Germanischer Lloyd (GL), Det Norske Veritas (DNV), Polish Register of Shipping (PRS). If required by appropriate regulations, WRA's products are marked with the "CE" building marking, as well as German "Ü" building marking. Tests which prove high quality of WRA's products are carried out in its own laboratory, which has received approvals from UDT, PRS and others. Walcownia Rur Andrzej has licences required by law in the field of environmental protection.



Line, structural and general use pipes according to European standards

We offer hot-rolled seamless steel tubes with high mechanical properties. They are used in numerous demanding industry sectors like gas industry, mining, construction and automotive sector.

kg/m	Wall thickness [mm]														
	2,0	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3	7,1	8,0	8,8	10,0
21,3	0,95	1,08	1,20	1,32	1,43	1,57	1,71								
25,0		1,29	1,44	1,58	1,72	1,90	2,07	2,28	2,47						
26,9		1,40	1,56	1,72	1,87	2,07	2,26	2,49	2,70	2,94					
30,0			1,76	1,94	2,11	2,34	2,56	2,83	3,08	3,27	3,68				
31,8			1,87	2,07	2,26	2,50	2,74	3,03	3,30	3,62	3,96	4,32			
33,7			1,99	2,20	2,41	2,67	2,93	3,24	3,54	3,88	4,26	4,66			
38,0			2,27	2,51	2,75	3,05	3,35	3,72	4,07	4,47	4,93	5,41	5,92		
42,4			2,55	2,82	3,09	3,44	3,79	4,21	4,61	5,08	5,61	6,18	6,79	7,29	
44,5			2,69	2,98	3,26	3,63	4,00	4,44	4,87	5,37	5,94	6,55	7,20	7,75	8,51
48,3			2,93	3,25	3,56	3,97	4,37	4,86	5,34	5,90	6,53	7,21	7,95	8,57	9,45
51,0			3,10	3,44	3,77	4,21	4,64	5,16	5,67	6,27	6,94	7,69	8,48	9,16	10,10
54,0				3,65	4,01	4,47	4,93	5,49	6,04	6,68	7,41	8,21	9,08	9,81	10,90
57,0				3,87	4,25	4,74	5,23	5,83	6,41	7,10	7,88	8,74	9,67	10,50	11,60
60,3				4,11	4,51	5,03	5,55	6,19	6,82	7,55	8,39	9,32	10,30	11,20	12,40
63,5				4,33	4,76	5,32	5,87	6,55	7,21	8,00	8,89	9,88	10,90	11,90	13,20
70,0				4,80	5,27	5,90	6,51	7,27	8,01	8,89	9,90	11,00	12,20	13,30	14,80
73,0				5,01	5,51	6,16	6,81	7,60	8,38	9,31	10,40	11,50	12,80	13,90	15,50
76,1				5,24	5,75	6,44	7,11	7,95	8,77	9,74	10,80	12,10	13,40	14,60	16,30
82,5					6,26	7,00	7,74	8,66	9,56	10,80	11,80	13,20	14,70	16,00	17,90
88,9					6,76	7,57	8,38	9,37	10,30	11,50	12,80	14,30	16,00	17,40	19,50
101,6						8,70	9,63	10,80	11,90	13,30	14,80	16,50	18,50	20,10	22,60
108,0						9,27	10,30	11,50	12,70	14,10	15,80	17,70	19,70	21,50	24,20
114,3						9,83	10,90	12,20	13,50	15,00	16,80	18,80	21,00	22,90	25,70

We manufacture according to:	Steel grades
PN-EN 10208-1	L210GA, L235GA, L245GA, L290GA, L360GA
PN-EN 10208-2	L245NB, L290NB, L360NB
PN-EN 10210-1,2	S235JRH, S275J0H, S275J2H, S355J0H, S355J2H, S275NH, S275NLH, S355NH, S355NLH
PN-EN 10216-1	P195TR1, P195TR2, P235TR1, P235TR2, P265TR1, P265TR2
PN-EN 10216-3	P275NL1, P275NL2, P355N, P355NH, P355NL1, P355NL2
PN-EN 10216-4	P215NL, P265NL
PN-EN 10297-1	E235, E275, E315, E355, C22E, C35E, C45E, C10E, C15E, C15R
PN-EN 39	S235GT
PN-EN 10255	S195T
PN-EN 10224	L235, L275, L355
PN-H-74219	R35, R45, R55, R65, 10, 20, 35, 45 18G2A
DIN 1629	St. 37.0, St. 44.0, St. 52.0
DIN 1630	St. 37.4, St. 44.4, St. 52.4

Other grades and standards upon agreement.

Lengths:

- random: 4÷12 m (over 12 m upon agreement);
- limited +300/-0 mm;
- exact, with max. deviation:
+10 mm for length < 6m, +15 mm for length 6÷12 m,
for length > 12 m upon agreement;
- repeated with allowance for cutting.

Tubes supply conditions:

- as rolled (heat treatment upon agreement).



Boiler tubes according to European standards

We offer top quality boiler tubes, which are used in power industry and other industry sectors, where resistance to high temperatures is required.

We manufacture according to:	Steel grades
EN 10216-2	P195GH, P235GH, P265GH, 16Mo3, 13CrMo4-5
DIN 17175	St.35.8, St.45.8, 15Mo3, 13CrMo44
PN-H-74252	K10, K18, 16M, 15HM

kg/m	Wall thickness [mm]														
	2,0	2,3	2,6	2,9	3,2	3,6	4,0	4,5	5,0	5,6	6,3	7,1	8,0	8,8	10,0
21,3	0,95	1,08	1,20	1,32	1,43	1,57	1,71								
25,0		1,29	1,44	1,58	1,72	1,90	2,07	2,28	2,47						
26,9		1,40	1,56	1,72	1,87	2,07	2,26	2,49	2,70	2,94					
30,0			1,76	1,94	2,11	2,34	2,56	2,83	3,08	3,27	3,68				
31,8			1,87	2,07	2,26	2,50	2,74	3,03	3,30	3,62	3,96	4,32			
33,7			1,99	2,20	2,41	2,67	2,93	3,24	3,54	3,88	4,26	4,66			
38,0			2,27	2,51	2,75	3,05	3,35	3,72	4,07	4,47	4,93	5,41	5,92		
42,4			2,55	2,82	3,09	3,44	3,79	4,21	4,61	5,08	5,61	6,18	6,79	7,29	
44,5			2,69	2,98	3,26	3,63	4,00	4,44	4,87	5,37	5,94	6,55	7,20	7,75	8,51
48,3			2,93	3,25	3,56	3,97	4,37	4,86	5,34	5,90	6,53	7,21	7,95	8,57	9,45
51,0			3,10	3,44	3,77	4,21	4,64	5,16	5,67	6,27	6,94	7,69	8,48	9,16	10,10
54,0				3,65	4,01	4,47	4,93	5,49	6,04	6,68	7,41	8,21	9,08	9,81	10,90
57,0				3,87	4,25	4,74	5,23	5,83	6,41	7,10	7,88	8,74	9,67	10,50	11,60
60,3				4,11	4,51	5,03	5,55	6,19	6,82	7,55	8,39	9,32	10,30	11,20	12,40
63,5				4,33	4,76	5,32	5,87	6,55	7,21	8,00	8,89	9,88	10,90	11,90	13,20
70,0				4,80	5,27	5,90	6,51	7,27	8,01	8,89	9,90	11,00	12,20	13,30	14,80
73,0				5,01	5,51	6,16	6,81	7,60	8,38	9,31	10,40	11,50	12,80	13,90	15,50
76,1				5,24	5,75	6,44	7,11	7,95	8,77	9,74	10,80	12,10	13,40	14,60	16,30
82,5					6,26	7,00	7,74	8,66	9,56	10,80	11,80	13,20	14,70	16,00	17,90
88,9					6,76	7,57	8,38	9,37	10,30	11,50	12,80	14,30	16,00	17,40	19,50
101,6						8,70	9,63	10,80	11,90	13,30	14,80	16,50	18,50	20,10	22,60
108,0						9,27	10,30	11,50	12,70	14,10	15,80	17,70	19,70	21,50	24,20
114,3						9,83	10,90	12,20	13,50	15,00	16,80	18,80	21,00	22,90	25,70

Other grades and standards upon agreement.

Boiler and line tubes according to ASTM/ASME

Pipes manufactured according to the following standards are suitable for bending, shaping flanges, other shaping operations and welding. This kind of tubes are used both in high and low temperatures.

We manufacture according to:	Steel grades
ASTM – A53	Grade A, Grade B
ASTM – A106	Grade A, Grade B, Grade C
ASTM – A333	Grade 1, Grade 6

DN	Nominal dimension	Outer diameter	Variation STD-SCH 40				Variation XS-SCH 80			
			Wall thickness		Weight		Wall thickness		Weight	
mm	inch	mm	inch	mm	lb/ft	kg/m	inch	mm	lb/ft	kg/m
15	½"	21,3	0,109	2,77	0,85	1,27	0,147	3,73	1,09	1,62
20	¾"	26,7	0,113	2,87	1,13	1,69	0,154	3,91	1,48	2,20
25	1"	33,4	0,133	3,38	1,68	2,50	0,179	4,55	2,17	3,24
32	1 ¼"	42,2	0,140	3,56	2,27	3,39	0,191	4,85	3,00	4,47
40	1 ½"	48,3	0,145	3,68	2,72	4,05	0,200	5,08	3,63	5,41
50	2"	60,3	0,154	3,91	3,66	5,44	0,218	5,54	5,03	7,48
65	2 ½"	73,0	0,203	5,16	5,80	8,63	0,276	7,01	7,67	11,41
80	3"	88,9	0,216	5,49	7,58	11,29	0,300	7,62	10,26	15,27
90	3 ½"	101,6	0,226	5,74	9,12	13,57	0,318	8,08	12,52	18,64
100	4"	114,3	0,237	6,02	10,80	16,08	0,337	8,56	15,00	22,32

Standard for the following norm is ASTM A450 (see p. 6)
– wall thickness tolerance only in plus

We manufacture according to:	Steel grades
ASTM – A192	A192
ASTM – 209	Grade T1, Grade T1a, Grade T1b
ASTM – A210	Grade A1, Grade C
ASTM – A334	Grade 1, Grade 6
ASTM – 213	Grade T12

Other grades and standards upon agreement.

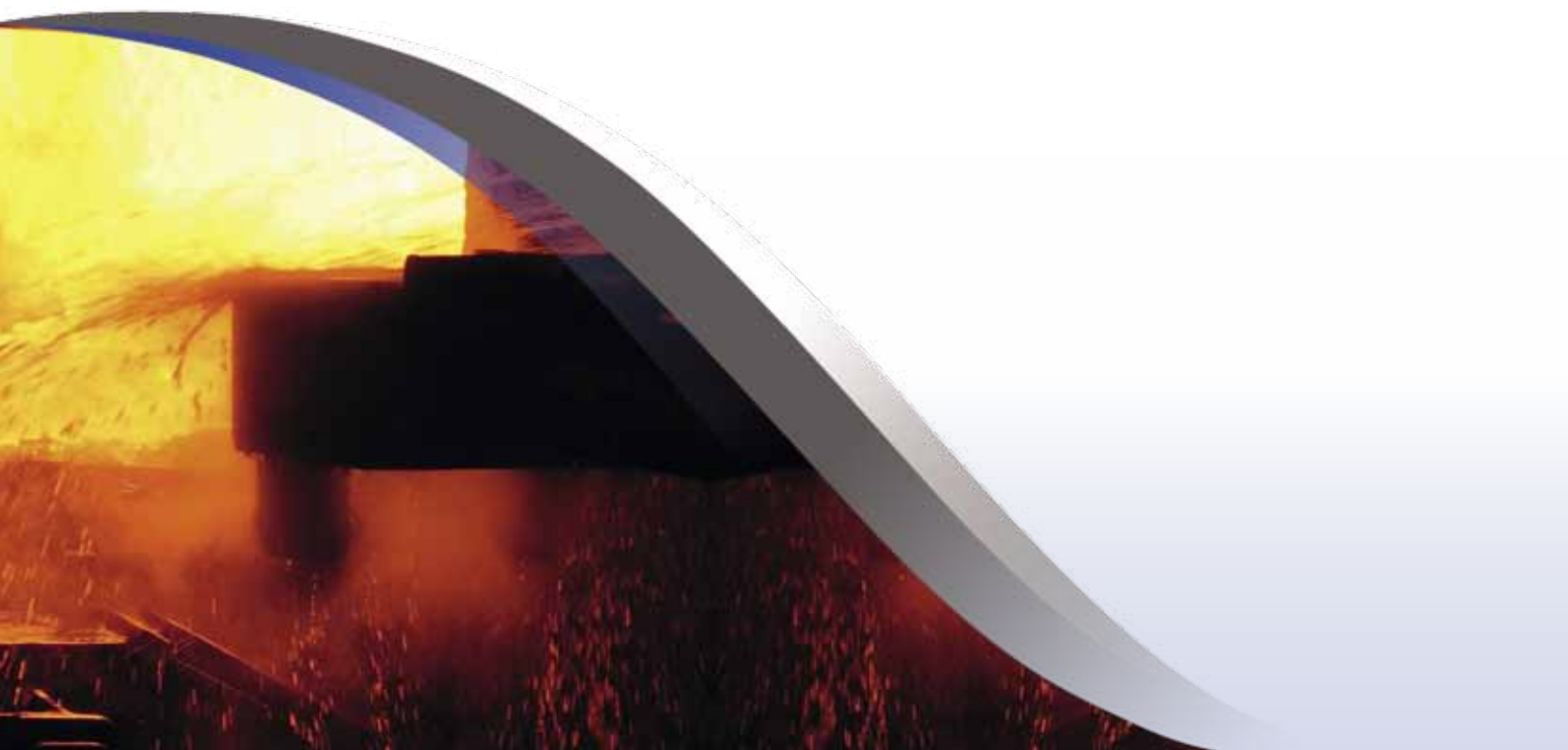
Boiler and line tubes according to **ASTM/ASME**

Leak proof test:

- nominal dimens. 1/2" and length up to 10 m: max 20 MPa;
- nominal dimens. 3/4" up to 3" and length up to 14m:
max 40 MPa;
- nominal dimens. 3 1/2" up to 4" and length up to 12 m:
max 20 MPa

		Wall thickness [mm]														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		-0,340	-0,300	-0,284	-0,259	-0,238	-0,220	-0,203	-0,180	-0,165	-0,148	-0,134	-0,120	-0,109	-0,095	-0,083
Outer diameter [mm]	22,2								4,6	4,2	3,76	3,4	3,05	2,77	2,41	2,11
	25,4							5,2	4,6	4,2	3,76	3,4	3,05	2,77	2,41	
	31,8					6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05	2,77		
	38,1					6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05	2,77		
	44,5					6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05	2,77		
	50,8					6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05	2,77		
	63,5					6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05			
	76,2				6,58	6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05			
	88,9			7,21	6,58	6,05	5,6	5,2	4,6	4,2	3,76	3,4	3,05			
	101,6			7,21	6,58	6,05	5,6	5,5	4,6	4,2	3,76	3,4	3,05			
	114,3	8,64	7,62	7,21	6,58	6,05	5,6	5,5	4,6	4,2	3,76	3,4				

Other grades and standards upon agreement.



Tubes for threading

Pipes made according to the following standards may be applied both in transport of liquids and for other uses.

We manufacture according to:	Steel grades
DIN 2440, DIN 2441, EN 10255	St 33, S195T

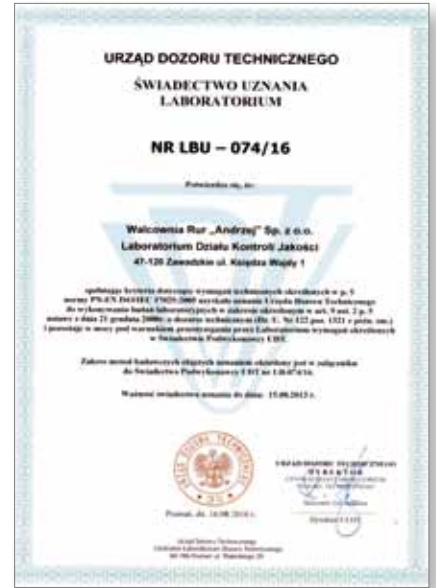
Other grades and standards upon agreement.

Nominal dimension inch	Outer diameter mm	M Medium rank		H Heavy rank	
		Wall thickness mm	Weight kg/m	Wall thickness mm	Weight kg/m
R 1/2"	21,3	2,65	1,22	3,25	1,45
R 3/4"	26,9	2,65	1,58	3,25	1,9
R 1"	33,7	3,25	2,44	4,05	2,97
R 1 1/4"	42,4	3,25	3,14	4,05	3,84
R 1 1/2"	48,3	3,25	3,61	4,05	4,43
R 2"	60,3	3,65	5,1	4,5	6,17
R 2 1/2"	76,1	3,65	6,51	4,5	7,9
R 3"	88,9	4,05	8,47	5,0	10,1
R 4"	114,3	4,5	12,1	5,4	14,4

Tubes for shipbuilding

We also manufacture tubes according to the regulations of world's major maritime inspection companies.

MANUFACTURED ACCORDING TO REGULATIONS OF INSPECTION COMPANIES		
Inspection Company	Regulation	Grades
RINA	PID Chapter 2, sec. 2	Equivalent to those offered according to PN-EN norms
DNV	PART 2 Chapter 2, sec. 4	
GL	PART I Chapter 2, sec. 2B, 4C	
LRS	PART II Chapter 6, sec. 2	



Basic range of tubes' diameters offered by Rurexpol

Below, we present the basic range of tubes' diameters offered by the Częstochowa-based Rurexpol, part of the Alchemia Capital Group.

Wall thickness [mm]	Outer diameter [mm]																						
	121	123	127	133	139,7	146	152,4	159	168,3	177,8	193,7	203	205	208	219,1	229	244,5	254	267	273	298		
4,5																							
5,0																							
5,6																							
6,3																							
7,1																							
8,0																							
8,8																							
10,0																							
11,0																							
12,5																							
14,2																							
16,0																							
17,5																							
20,0																							
22,2																							
25,0																							
28,0																							
30,0																							
32,0																							
34,0																							
36,0																							
40,0																							

tolerance of outer diameter beyond wall thickness 32 – (+ / - 1%)

tolerance of outer diameter above wall thickness 32 – (+ / - 2%)

tolerance of wall thickness – depending on the standard

for size 298 tolerance of outer diameter – (+ / -2%) only as rolled

uncalibrated tubes (+/-2%)

tubes in accordance with the production program

tubes not included in the production program



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