

Minimum thickness(mm) of Pipe insulation to prevent condensation on the insulation surface

in accordance with KS F 2803

Thermal conductivity (λ)	0.035 W/m·K + (0.0001 W/m·K × Average temp. 20 °C)
Surface heat transfer coefficient (α)	8.141 W/m ² ·K

Relative humidity		80 %									
Ambient Temperature		30 °C									
Inside temperature of the pipe		10 °C	5 °C	0 °C	-5 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	
O D P (mm)	21.3	14	18	21	24	27	32	37	42	47	
	26.9	15	18	22	25	28	34	39	44	49	
	33.7	16	19	23	26	29	35	41	47	52	
	42.4	16	20	24	27	31	37	43	49	55	
	48.3	16	20	24	28	31	38	44	50	56	
	60.3	17	21	25	29	33	40	46	53	59	
	76.1	18	22	26	30	34	41	49	55	62	
	88.9	18	22	27	31	35	43	50	57	64	
	101.6	18	23	27	32	36	44	51	58	66	
	114.3	18	23	28	32	36	45	52	60	67	
	139.7	19	24	28	33	37	46	54	62	69	
	165.1	19	24	29	34	38	47	56	64	71	
	215.9	19	25	30	35	39	49	58	67	75	
	266.7	20	25	30	35	40	50	60	69	78	
	317.5	20	25	31	36	41	51	61	70	79	

Relative humidity		90 %									
Ambient Temperature		30 °C									
Inside temperature of the pipe		10 °C	5 °C	0 °C	-5 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	
O D P (mm)	21.3	27	33	38	43	48	57	66	74	82	
	26.9	28	34	40	45	50	60	70	78	87	
	33.7	30	36	42	47	53	63	74	82	92	
	42.4	31	38	44	50	56	67	77	87	96	
	48.3	32	39	45	52	58	70	80	90	99	
	60.3	33	41	47	54	60	72	83	94	105	
	76.1	35	42	50	56	63	76	88	99	110	
	88.9	36	44	52	58	65	78	91	103	114	
	101.6	37	45	52	60	67	80	94	106	117	
	114.3	37	46	54	62	69	82	96	108	120	
	139.7	38	47	56	64	71	86	100	113	126	
	165.1	39	48	57	66	73	88	104	117	130	
	215.9	40	50	59	68	76	93	108	123	137	
	266.7	41	51	61	70	79	96	112	128	143	
	317.5	42	52	62	72	81	99	115	132	147	