

## DECLARATION OF PERFORMANCE

Manufacturer : Uponor GmbH  
 Product family : Ecoflex Aqua Twin  
 Product parameters : U-Values  
 Analysing organization : Stressfield Oy

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Product and parameters:

Identification of the product type	Uponor Ecoflex Aqua Twin 2xPN 10 (SDR 7.4)
Sizes	25-20/140, 25-25/175, 28-18/140, 28-22/140, 32-18/175, 32-20/175, 32-22/175, 32-25/175, 32-28/175, 40-25/175, 40-28/175, 40-32/175, 50-25/175, 50-32/175, 50-40/200, 50-50/200.
Assesment of performance	Numerical simulation with ANSYS Fluent 2021 R1 solver.
Applied parameters	Product material thermal conductivities at 50 °C. Heat losses, including soil to ambient thermal transmittance, according to EN 15632-1 Appendix B.

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Declared performance:

Ecoflex Aqua Twin	U-Value <sup>1)</sup> [W/mK]	Heat loss <sup>2)</sup> [W/m] for corresponding $\Delta\theta$ [K] <sup>3)</sup>						
		20	30	40	50	60	70	80
25-20/140	0.222	4.45	6.67	8.89	11.12	13.34	15.56	17.78
25-25/175	0.193	3.85	5.78	7.70	9.63	11.55	13.48	15.40
28-18/140	0.228	4.55	6.83	9.10	11.38	13.65	15.93	18.20
28-22/140	0.237	4.74	7.10	9.47	11.84	14.21	16.58	18.95
32-18/175	0.198	3.95	5.93	7.91	9.88	11.86	13.84	15.82
32-20/175	0.198	3.97	5.95	7.94	9.92	11.90	13.89	15.87
32-22/175	0.211	4.23	6.34	8.46	10.57	12.69	14.80	16.91
32-25/175	0.217	4.33	6.50	8.66	10.83	12.99	15.16	17.32

<cont.>

<sup>1)</sup> See 'Applied parameters' above.

<sup>2)</sup> According to EN 15632-1 Appendix B

<sup>3)</sup> Calculation example for  $\Delta\theta$ :

Flow pipe at 70 °C, return pipe at 40 °C, ambient at 5 °C  $\rightarrow \Delta\theta = (70\text{ °C} + 40\text{ °C})/2 - 5\text{ °C} = 50\text{ °C}$

Declared performance:

Ecoflex Aqua Twin	U-Value <sup>1)</sup> [W/mK]	Heat loss <sup>2)</sup> [W/m] for corresponding $\Delta\vartheta$ [K] <sup>3)</sup>						
		20	30	40	50	60	70	80
<cont.>								
32-28/175	0.222	4.44	6.66	8.88	11.09	13.31	15.53	17.75
40-25/175	0.234	4.69	7.03	9.38	11.72	14.07	16.41	18.76
40-28/175	0.240	4.81	7.21	9.62	12.02	14.43	16.83	19.24
40-32/175	0.265	5.30	7.95	10.60	13.25	15.89	18.54	21.19
50-25/175	0.282	5.63	8.45	11.27	14.08	16.90	19.72	22.53
50-32/175	0.296	5.92	8.88	11.85	14.81	17.77	20.73	23.69
50-40/200	0.279	5.58	8.37	11.16	13.95	16.74	19.53	22.32
50-50/200	0.301	6.02	9.02	12.03	15.04	18.05	21.06	24.06

<sup>1)</sup> See 'Applied parameters' above.

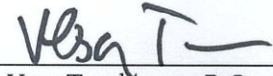
<sup>2)</sup> According to EN 15632-1 Appendix B

<sup>3)</sup> Calculation example for  $\Delta\vartheta$ :

Flow pipe at 70 °C, return pipe at 40 °C, ambient at 5 °C  $\rightarrow \Delta\vartheta = (70\text{ °C} + 40\text{ °C})/2 - 5\text{ °C} = 50\text{ °C}$

Signed on behalf of the Analysing organization by

Date



11.4.2022

Vesa Tanskanen, D.Sc. (tech)