

# Technical static values BRAWOLINER® EP

**BRAWO® SYSTEMS**

Stand: 2020-08-05

## Technical values for the stability calculation (BRAWO® AC, BRAWO® TC)

		AC	TC	Unit
Circumference E-modulus 3-min short-term:	DIN EN 1228	3100	2800	N/mm <sup>2</sup>
Circumference E-modulus long-term:	DIN EN 1228	1690	1170	N/mm <sup>2</sup>
3-point bending E-modulus short-term:	DIN EN ISO 178	2200	2300	N/mm <sup>2</sup>
3-point bending E-modulus long-term:	DIN EN ISO 178	1200	966	N/mm <sup>2</sup>
3-point flexural strength short-time:	DIN EN ISO 178	30	29	N/mm <sup>2</sup>
3-point flexural strength long-time:	DIN EN ISO 178	16,4	12,2	N/mm <sup>2</sup>
Compressive strength short-term:	DIN EN ISO 604	48	49	N/mm <sup>2</sup>
Compressive strength long-term:	DIN EN ISO 604	26,3	20,6	N/mm <sup>2</sup>
Attenuation factor:		1,83	2,38	
Poisson's ratio $\mu$ :		0,20	0,20	
Partial safety factor $\gamma_m$ :		1,35	1,35	
Annular gap (according to DWA-A 143-2)		0,5	0,5	%
Material characteristic group according to DWA-M 144-3		4	-	

## Achievable wall thicknesses for the BRAWOLINER®

BRAWOLINER® 3D	DN tube	Wall thickness <sup>1)</sup>	SN <sup>2)</sup>
BRAWOLINER® 3D DN 300-400 (+ BRAWO® AC)	DN 300	5,6 mm	1778 N/m <sup>2</sup>
	DN 375	5,4 mm	806 N/m <sup>2</sup>
	DN 400	5,1 mm	556 N/m <sup>2</sup>
BRAWOLINER® 3D DN 300-400 (+ BRAWO® TC)	DN 300	5,6 mm	1606 N/m <sup>2</sup>
	DN 375	5,4 mm	728 N/m <sup>2</sup>
	DN 400	5,1 mm	503 N/m <sup>2</sup>

<sup>1)</sup> These wall thicknesses are achieved in accordance with the recommended rolling distances least.  
A wear layer of 0.2 mm has already been deducted the listed values.

<sup>2)</sup> Calculation of nominal ring stiffness (SN) in accordance with DIN EN 1228  
E = Circumference E-modulus 3-min short-term ; e = wall thickness ;  $d_e$  = internal diameter old pipe

$$SN = \frac{E \cdot e^3}{12 \cdot (d_e - e)^3}$$