



Transporting energy.

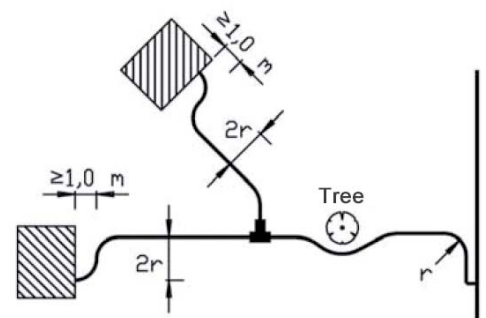


$$\lambda_{50} = 0,0218 \text{ W/(m}\cdot\text{K)}$$



ISOWELL

www.isoplus-pipes.com



isowell

The **isowell**®-carrier pipe consists of a flexible, spiral corrugated HYDRA® stainless-steel tube, longitudinal seam-welded, Material No. 1.4404. Technical delivery conditions and material according to EN 10028-7.



Connection Technology

The connection of the stainless-steel tube will be made by a screw flange, insulated by a heat shrink sleeve system.

Application Range

Permissible **continuous** operating temperature: 120 °C acc. to EN 15632-4
 Permissible short-term peak temperature T_{max} : 140 °C acc. to EN 15632-4
 Max. permissible operating pressure p_B : 25 bar
 Leak detection: prepared for **IPS-Cu, IPS-NiCr** and Brandes
 Possible liquids: all heating-waters and other material-suitable liquids

Type	Dimensions steel pipe			Jacketpipe- Outside-Ø • Wall- thickness $D_a \cdot s$ in mm	Delivery length in 1,00 m steps L in m	Maximum- Coil- outside-Ø d_R in mm	Minimum- Bending- radius r in m	Weight without water G in kg/m
	Inside- Ø d_{a1} in mm	Outside- Ø d_{a2} in mm	Wall- thickness s in mm					
isowell - 25	32,0	35,2	0,3	110 • 2,5	150	2530	0,9	1,51
isowell - 32	40,0	44,8	0,4	125 • 2,5	150	2550	1,0	1,93
isowell - 40	49,0	54,8	0,5	125 • 2,5	150	2550	1,0	2,19
isowell - 50	61,0	66,6	0,5	140 • 3,0	120	2690	1,1	2,63

In order to avoid the exchange of PUR-cell gas, in all **isowell**®-flexible pipes a diffusion barrier is included. This barrier-foil will be implemented between PUR-foam and jacket pipe during the production procedure. The used barrier-foils are granting the flexible pipes a constant and durable low energy loss during the duration of operation.

For **isowell**® a 100 % diffusion tight aluminium-foil will be used as barrier. In order to keep the compound system, the foil is coated on both sides by corona treated polyethylene (PE-LLD, **P**olyethylene **L**inear **L**ow **D**ensity).

Characteristics / advantages isowell

- ⇒ Self-compensating
- ⇒ Flexible alternative to the rigid compound system in the house exchange area
- ⇒ Nearly no assembling work for joint connections and moldings (trench can be filled immediately)
- ⇒ Minimum bending radius starting from 900 mm, delivery in coils, short delivery times due to central stack
- ⇒ more easy trench-buildings in intensively constructed areas, reduction of total time for construction, less traffic-interference
- ⇒ More economic production of the preinsulated pipe system
- ⇒ No anchors required for wall penetrations
- ⇒ Lower pipe-covering-heights are possible, respectively shallow pipe laying
- ⇒ Longitudinal watertight compound system according to EN 15632-4, FW 420

Technology

Capacity [P] and heat loss [q]

Type	Dimensioning						Heat loss			
	Water content v in liter/m	Volume flow V' in m ³ /h	Flow speed w in m/s	Transmittable capacity P in KW at spread			Coefficient u in W/(m•K)	q per pipe-meter in W/m at average temperature T_M		
				20 K	30 K	40 K		70 °C	60 °C	50 °C
isowell - 25	0,881	0,87 - 1,45	0,3 - 0,5	20 - 34	30 - 51	40 - 67	0,1111	6,667	5,556	4,445
isowell - 32	1,392	1,58 - 2,49	0,4 - 0,6	37 - 58	55 - 87	74 - 116	0,1218	7,307	6,089	4,871
isowell - 40	2,091	2,72 - 4,07	0,4 - 0,6	63 - 95	95 - 142	126 - 190	0,1482	8,894	7,412	5,929
isowell - 50	3,187	4,73 - 7,36	0,5 - 0,7	110 - 171	165 - 257	220 - 343	0,1628	9,767	8,139	6,511

Capacity [P]:

All specified values are based on an average specific heat capacity [c_m] of the water from 4.187 J/(kg•K).
The flow speed [w] is general to customize system typically.

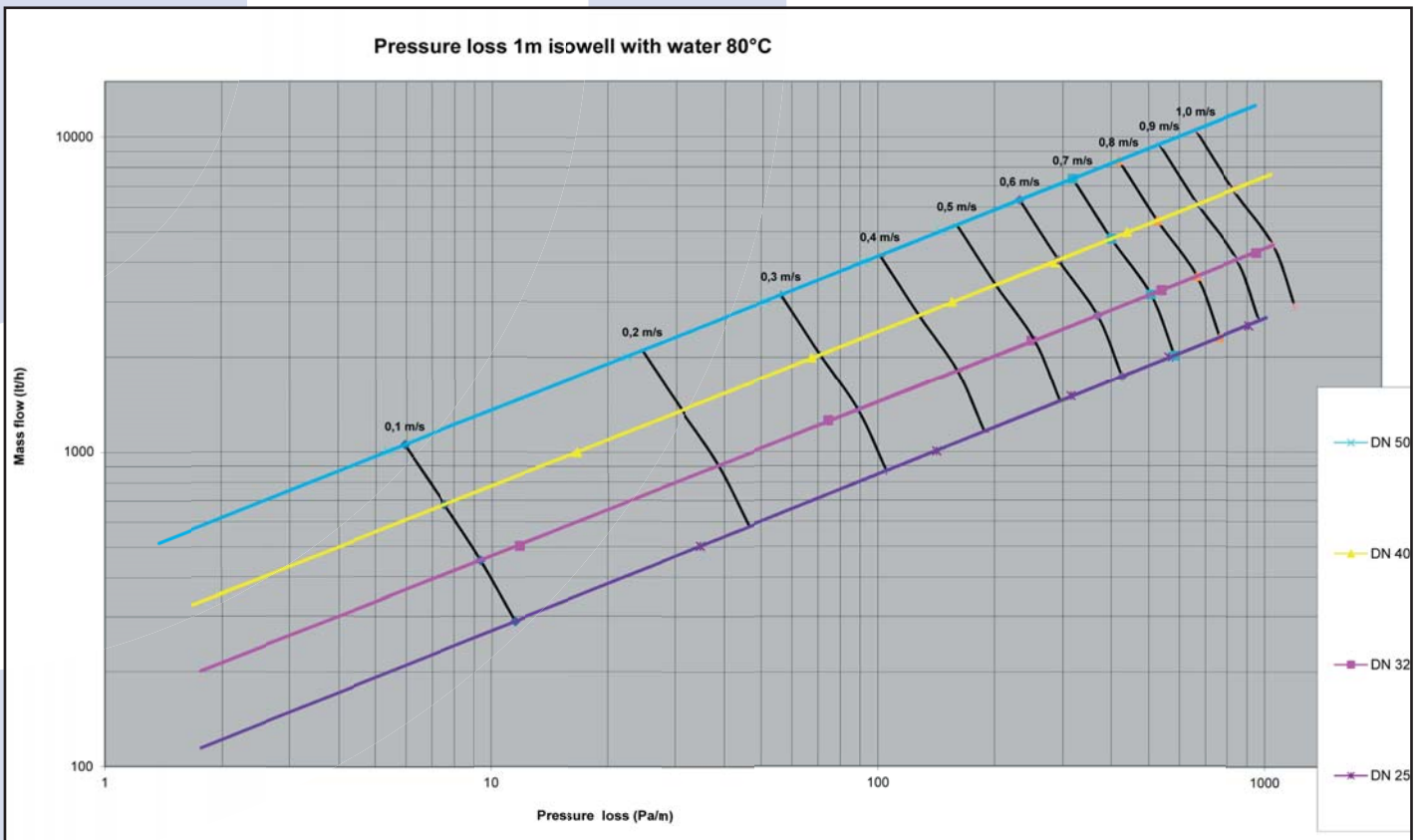
Heat loss [q]:

All specified values are based on a covering height [\ddot{U}_H] of 0,80 m, a conductivity of soil [λ_E] of 1,0 W/(m•K), an average soil temperature [T_E] of 10 °C as well as a pipe distance of 100 mm;
Average temperature $T_M = (T_{VL} + T_{RL}) : 2$

Example: (80 °C + 60 °C) : 2 = 70 °C

All values are based on a thermal conductivity of the PUR foam $\lambda_{50} = 0,0218$ W/(m•K).

Pressure loss



Flex Pipe



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