

BRUGG

Pipes

FLEXWELL®-LPG Piping

Pipe system for petrol stations

Flexible Pipe system for automotive LPG in service station constructions

GENERAL DESCRIPTION

FLEXWELL®-LPG Piping is suitable for automotive LPG (Autogas) buried installations of service stations in both vapour and liquid phase.

LPG's main constituents are Propane (C₃H₈) and Butane (C₄H₁₀) in its liquid phase. The actual mixture of propane and butane of any automotive LPG marketed varies considerably from one country to another, depending on their sources of LPG. The mix of propane and butane has a profound impact on design requirements of LPG fuelling components; the one for a propane only mix being the most stringent. The selection of the material depends on the minimum temperatures, which can occur during failure of the equipment, and has been carried out in accordance with the european Pressure Equipment Directive PED 97/23/EG. FLEXWELL®-LPG Piping is designed for operating temperatures from -50 °C up to 60 °C and operating pressures of PN 25 (360 PSI) as indicated for propane only mixtures.

SYSTEMVORTEILE

- fast and simple to install without welding and x-raying of welds on site
- no downtime and only minimal interruptions to petrol sales on retrofits
- the most cost effective pipe system



APPLICATION

FLEXWELL®-LPG is a single walled flexible pipe system designed for the underground transport of LPG. Typically FLEXWELL®-LPG Piping is used as an underground liquid feedline and vapour return between the LPG storage tanks and the liquid gas dispenser in fuelling stations.

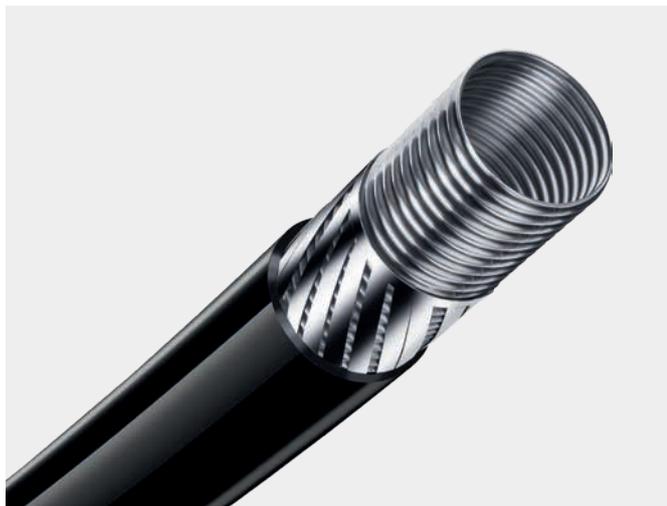
CONSTRUCTION

The flexible composite pipe has a helically corrugated primary pipe. This is manufactured of EN 1.4404 stainless steel (US equivalent: AISI TP 316 L) and has excellent corrosion resistance characteristics as a result. Around this carrier pipe, high-strength reinforcing bands are fitted, which effectively limit longitudinal expansion even at high operating pressures. Corrosion protection for bur-

ied installation in the ground is afforded by an external PE-LD jacket.

INSTALLATION

FLEXWELL®-LPG Piping is manufactured in standard factory lengths up to 700 m. The pipework is supplied on a cable reel or coil allowing it to be run directly off the reel or coil into position in the pipe trench. The corrugated primary pipe and the helically fitted reinforcing bands give this piping system remarkably good flexibility and ease of laying. FLEXWELL®-LPG pipework can be cut to the required length on site and, as necessary, bent through very tight angles to run around, under or over existing services.



FLEXWELL®-LPG with reinforced bands



Easy installation on site

Physical properties of FLEXWELL®-LPG Piping

Type designation:	LPG 22/33	LPG 30/40	LPG 39/50	LPG 48/61	LPG 60/74
Material:					
• primary pipe	stainless steel 1.4404*	•	•	•	•
• corrosion proofing	PE-LD jacket	•	•	•	•
Max. operating pressure:	+ 25.0 bar/ 360 psi	+ 25.0 bar/ 360 psi	+ 25.0 bar/ 360 psi	+ 25.0 bar/ 360 psi	+ 25.0 bar/ 360 psi
Nominal diameter:	DN 20 / ¾"	DN 25 / 1"	DN 32 / 1 ¼"	DN 40 / 1 ½"	DN 50 / 2"
Dimensions:					
inner pipe diameter	22 mm	30 mm	39 mm	48 mm	60 mm
outer pipe diameter	33 mm	42 mm	52 mm	63 mm	74 mm
volume inner pipe (l/m)	0.40	0.80	1.30	2.00	3.00
Min. bending radius:	200 mm	200 mm	300 mm	400 mm	600 mm
Weight: (kg/m)	0.7	0.9	1.5	1.9	2.7
Available type of connectors:					
• male thread end NPT	•	•	•	•	•
• also available with reduced male thread end NPT		•	•		
• split flanges DIN	•	•	•	•	•
• split flanges ANSI	•	•	•		
• welding end	•	•	•	•	•

*US equivalent: AISI TP 316 L

All technical data subject to change.

Approvals, 3rd party testing

STOOMWEZEN, SCHIELAB, Report No. SL 584/01 dated 07/10/01; KIWA BRL-K780/04, PED 2014/68/EU Module A2, CE 0045 – Flexible single walled pipe for LPG.

For additional 3rd party testing of connectors refer to:

TÜV-Nord, Germany, report on burst pressure testing of FLEXWELL® connectors using graphite packing.

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