

WHAT IS THE SMART^{lpg}™ SYSTEM

SMART^{lpg} is a system of composite pipes having a barrier layer, with a reinforcing textile fibre layer and an external protective layer. The system is completed by specialised compression fittings for high pressures.

The **SMART^{lpg}** range is available in the following sizes:

PART NUMBER	ND - ID
TGSMA25	25 mm
TGSMA32	32 mm

FIELDS OF USE

The **SMART^{lpg}** system can be used in the following applications:

- Underground installations for the transport of LPG by traction from tank to dispenser

SMART^{lpg} piping is suitable for the transport of LPG, having an inner barrier layer made of a special polyamide co-polymer.

SMART^{lpg} system can be installed in the following applications:

- Product delivery lines
- Return lines
- Vent
- Vapour recovery

MAIN FEATURES OF THE SMART^{lpg}™ SYSTEM

THE PIPE

The **SMART^{lpg}** pipe has an inner layer made of a special polyamide resistant to LPG, an intermediate layer made of polyamide resistant to LPG, an intermediate reinforcing layer of polyester fibre with closed frame and an external layer made of PE100 RC (Rockpipe) that is resistant to crack and point loading.

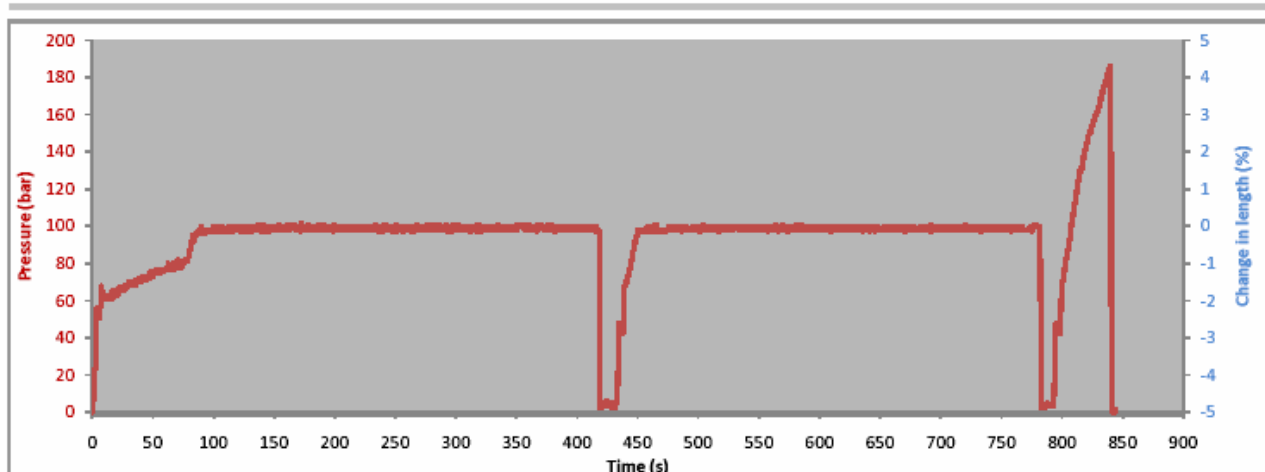
The building and design characteristics of the pipe guarantee the following performance:




- PN35 (bar)
- Bursting pressure > 180 bar
- Resistance to the transported fluid
- Durability of 25 years
- Flexibility
- Resistance to corrosion
- Limited head losses
- Resistance to abrasion

PERFORMANCE DURING THE BURSTING TEST

TEST RESULTS - RISULTATI DEL TEST



Burst pressure (bar): Pressione di scoppio (bar):	186	Test results: Risultati del test:	 PASSED
Change in length at maximum working pressure (%): Variazione di lunghezza alla massima pressione di esercizio (%):	0,24	Failure mode: Analisi dello scoppio:	REGULAR HOSE BURST

THE FITTINGS

The range of **SMART^{lpg}** fittings are made of special carbon steel alloy with high resilience to low working temperatures, as requested in the European Regulation 97/23/CE (PED). These fittings are radial compression fittings made of a terminating fitting and a crimp insert.

The regulations in force exclude the use of buried fittings (only for sumps that can be inspected).

The BSPP threaded terminating part allows a safe joining, as tightness is obtained thank to the olive seat, not the thread.

THREAD TYPE

The British Standard Pipe Parallel thread type is also known in the UK as Whitworth thread.

Male BSPP fittings can only be joined to female BSPP fittings. Male BSPP fittings have cylindrical thread and a 30° flare. Female BSPP fittings have cylindrical thread and a 30° ogive.

Revolving female BSPP fittings have a conical olive seat that allows tightness on the conical part of the male fitting.

BSPP connectors are similar to NPSM ones but they are not interchangeable. The thread spacing is usually different and the thread angle is 55° instead of 60° as in NPSM connectors.



Terminating adapters are available in the following sizes:

ND	PART NUMBER	THREAD	PRESSING BUSHING
25	TGSAF251BSPP	1" Female - BSPP	Extra
25	TGSAM251BSPP	1" Male - BSPP	Extra
32	TGSAF321 ¼"BSPP	1 ¼" Female - BSPP	Extra
32	TGSAM321 ¼"BSPP	1 ¼" Male - BSPP	Extra

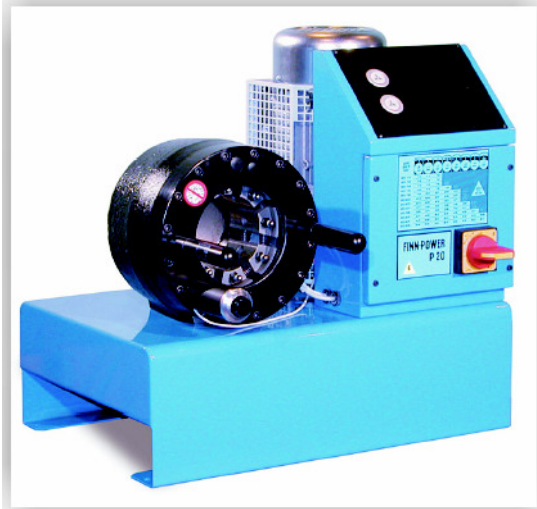
Different thread types and/or flanged joints will be available soon.

Standard European Fittings with 1" and 1.1/4" BSPT will be available.

EQUIPMENT

The only equipment needed to carry out joining is a press fitting machine.

Together with its range, NUPIGECO provides a PUNZTEC machine available both in manual and electrical configuration complete with the crimp die set for **SMART^{lpg}** fittings.



TOOLING

The only tool need for the installation is a pipe cutter.

- Pipe cutter - Model SCUT

WARRANTY

20 YEAR WARRANTY

All **SMART^{lpg}** components have a 20 year warranty both for raw materials and productions process.

In order to validate the product warranty, the **SMART^{lpg}** system shall be installed by qualified installers duly trained according to the latest assembly instructions.

The **SMART^{lpg}** system is covered by Third Party insurance according to EEC regulations no. 85/374 and D.P.R. no. 244 dated 24th May 1988 (Italian law - see conditions).