

+GF+ ABS METRIC

PIPING SYSTEMS

ABS (Acrylonitrile Butadiene Styrene) is a homogeneous material with high impact strength and ductility, good chemical resistance, good resistance to environmental stress cracking and excellent resistance to crack propagation. Other advantages are its suitability for use at low temperatures [-40°C], it is recyclable and is non-toxic, and can be regarded as biologically inert.

Advantages

- Economical material costs
- Quick and easy to joint requiring practically no investment and minimal training
- Smooth inner bore reduces pressure losses to a minimum and can reduce the size of piping required in comparison with other less efficient systems [e.g., metal generally]
- Its light weight reduces transport costs and enables quick, easy handling on site
- A low thermal conductivity, approx. 2000 times lower than copper, optimizes your piping system reducing to a minimum energy loss and reducing or often eliminating the need for insulation
- No corrosion
- Reduced maintenance costs



Standards & Approvals

George Fischer metric fittings in ABS are generally in accordance with DIN 8063 and the pipe with DIN 16890/16891. Georg Fischer ABS has a whole range of marine approvals from all the major classification societies, namely Germanischer Lloyd, Lloyds Register, Det Norske Veritas, American Bureau of Shipping, Bureau Veritas, Rina etc.

Temperature and Pressure

The permissible working temperature range for an ABS pipe system is from -40°C to +60°C. The pressure ratings for ABS pipe, fittings and valves are as follows:

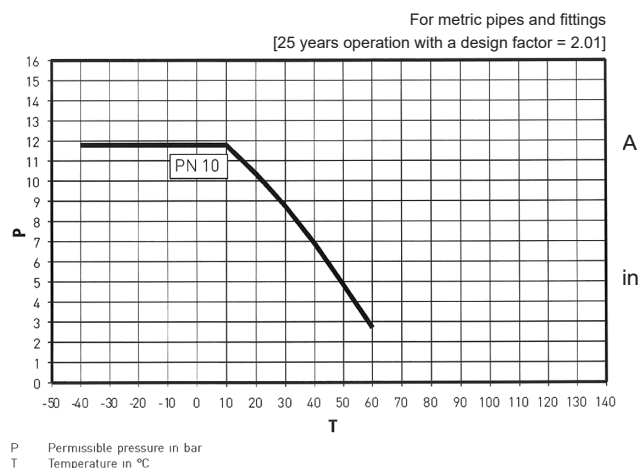
Metric

Pipe	10 bar	[PN 10 or 145 lbf/in ²]
Fittings	16-225 mm	10 bar [PN 10 or 145 lbf/in ²]
Valves	10 bar	[PN 10 or 145 lbf/in ²]

Pressure ratings for thermoplastic pipework are always quoted at 20°C. It can be used at higher temperatures, but it is a fundamental principle in thermoplastic pipework that if the temperature is increased then the pressure rating must be reduced. Reduction factors can apply when using media other than water. Please consult our technical advisory service.


The table to the left shows, for an ABS pipe system, the maximum permissible pressures at various temperatures up to the maximum of 60°C. The table is based on an ambient temperature of 20°C with water as the medium. design factor of 2.0 is incorporated into all calculations with a life span of 25 years.

According to the 10° line in the hydrostatic strength curve for ABS a permissible pressure of 12 bar the temperature range of -40° to +10°C for the PN 10 system can be applied.













Related Documents

- Pipe Clips, Backing Rings and Dressing Sets

ABS METRIC PIPE					
	Code	Size OD (mm)	PN (bar)	Min Wall Thickness (mm)	Nom Weight (Kg/m)
 5 Metre Lengths	169017080	16	16	1.8	0.095
	169017081	20	16	2.3	0.152
	169017082	25	16	2.3	0.193
	169017083	32	10	1.9	0.212
	169017084	40	10	2.4	0.334
	169017085	50	10	3	0.523
	169017086	63	10	3.8	0.834
	169017087	75	10	4.5	1.176
	169017088	90	10	5.4	1.693
	169017089	110	10	6.6	2.529



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ABS METRIC FITTINGS								
	Code	OD (mm)	PN (bar)			Code	OD (mm)	PN (bar)
Bend 90° 	729000106	20	16		Tee 90° 	729200105	16	16
	729000107	25	16			729200106	20	16
	729000108	32	10			729200107	25	16
	729000109	40	10			729200108	32	10
	729000110	50	10			729200109	40	10
	729000111	63	10			729200110	50	10
	729000112	75	10			729200111	63	10
	729000113	90	10			729200112	75	10
	729000114	110	10			729200113	90	10
						729200114	110	10
Elbow 90° 	729100105	16	16		Reducing Tee 	729200134	25x20	16
	729100106	20	16			729200138	32x25	10
	729100107	25	16			729200151	40x25	10
	729100108	32	10			729200147	40x32	10
	729100109	40	10			729200164	50x32	10
	729100110	50	10			729200178	63x32	10
	729100111	63	10			729200170	63x50	10
	729100112	75	10			729200182	75x40	10
	729100113	90	10			729200143	90x32	10
729100114	110	10	729200146	90x63	10			
						729200144	110x32	10
						729200136	110x50	10
Elbow 45° 	729150106	20	16		Tee 45° 	729250106	20	10
	729150107	25	16			729250107	25	10
	729150108	32	16			729250108	32	10
	729150109	40	10			729250109	40	10
	729150110	50	10			729250110	50	10
	729150111	63	10			729250111	63	10
	729150112	75	10			729250112	75	6
	729150113	90	10			729250113	90	6
	729150114	110	10			729250114	110	6
Socket 	729910105	16	16		Reducing Bush 	729900334	20x16	16
	729910106	20	16			729900337	25x20	16
	729910107	25	16			729900342	32x20	10
	729910108	32	10			729900341	32x25	10
	729910109	40	10			729900348	40x20	10
	729910110	50	10			729900347	40x25	10
	729910111	63	10			729900346	40x32	10
	729910112	75	10			729900355	50x20	10
	729910113	90	10			729900354	50x25	10
729910114	110	10	729900353	50x32	10			
Cap 	729960105	16	16		729900352	50x40	10	
	729960106	20	16		729900360	63x32	10	
	729960107	25	16		729900359	63x40	10	
	729960108	32	10		729900358	63x50	10	
	729960109	40	10		729900365	75x50	10	
	729960110	50	10		729900364	75x63	10	
	729960111	63	10		729900372	90x50	10	
	729960112	75	10		729900371	90x63	10	
	729960113	90	10		729900370	90x75	10	
729960114	110	10	729900378	110x63	10			
Adaptor Barrel Nipple 	729911505	3/8"	10		729900376	110x90	10	
	729911506	1/2"	10					
	729911507	3/4"	10					
	729911508	1"	10					
	729911509	1 1/4"	10					
	729911510	1 1/2"	10					
	729911511	2"	10					
	729911513	3"	10					
	729911515	4"	10					

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	Code	OD (mm)	PN (bar)		Code	OD (mm)	PN (bar)		
Adaptor Reducing Bush 	729910434	20x $\frac{3}{8}$ "	10	Flange Adaptor ABS Metric 	729790106	20	10		
	729910437	25x $\frac{1}{2}$ "	10		729790107	25	10		
	729910441	32x $\frac{3}{4}$ "	10		729790108	32	10		
	729910446	40x1"	10		729790109	40	10		
	729910452	50x1 $\frac{1}{4}$ "	10		729790110	50	10		
	729910458	63x1 $\frac{1}{2}$ "	10		729790111	63	10		
Socket Union 	729510105	16	10	Adaptor Elbow 90° 	729100206	20x $\frac{1}{2}$ "	10		
	729510106	20	10		729100207	25x $\frac{3}{4}$ "	10		
	729510107	25	10		729100208	32x1"	10		
	729510108	32	10		729100209	40x1 $\frac{1}{4}$ "	10		
	729510109	40	10		729100210	50x1 $\frac{1}{2}$ "	10		
	729510110	50	10		729100211	63x2"	10		
	729510111	63	10		Adaptor Socket 	729910206	20x $\frac{1}{2}$ "		10
	729510112	75	10			729910207	25x $\frac{3}{4}$ "		10
	729510113	90	10			729910208	32x1"		10
	729510114	110	10			729910209	40x1 $\frac{1}{4}$ "		10
729540205	16x $\frac{3}{8}$ "	10	729910210	50x1 $\frac{1}{2}$ "		10			
729540206	20x $\frac{1}{2}$ "	10	729910211	63x2"		10			
Adaptor Union, Female, ABS/St.Steel 	729540207	25x $\frac{3}{4}$ "	10	Female Adaptor 	729900406	20x $\frac{1}{2}$ "	10		
	729540208	32x1"	10		729900407	25x $\frac{3}{4}$ "	10		
	729540209	40x1 $\frac{1}{4}$ "	10		729900408	32x1"	10		
	729540210	50x1 $\frac{1}{2}$ "	10		729900409	40x1 $\frac{1}{4}$ "	10		
	729540211	63x2"	10		729900410	50x1 $\frac{1}{2}$ "	10		
	729540705	16x $\frac{3}{8}$ "	10		729900411	63x2"	10		
	729540706	20x $\frac{1}{2}$ "	10		729910505	16x $\frac{3}{8}$ "	10		
	729540707	25x $\frac{3}{4}$ "	10		Male Adaptor, Spigot 	729910556	20x $\frac{1}{2}$ "		10
729540708	32x1"	10	729910557	25x $\frac{3}{4}$ "		10			
729540709	40x1 $\frac{1}{4}$ "	10	729910558	32x1"		10			
729540710	50x1 $\frac{1}{2}$ "	10	729910559	40x1 $\frac{1}{4}$ "		10			
729540711	63x2"	10	729910560	50x1 $\frac{1}{2}$ "		10			
			729910561	63x2"		10			
Adaptor Union, Male, ABS/St.Steel 				Male Adaptor, Socket 					
Hose Connector 	729960405	16	10						
	729960406	20	10						
	729960407	25	10						
	729960408	32	10						

ABS METRIC ACCESSORIES					
	Code	Size OD (mm)		Code	Size
Pipe Clips 	167061035	16	ABS Solvent Cement 	CEMENT250	250ml
	167061036	20		CEMENT500	500ml
	167061037	25		CEMENT1LT	1 Litre
	167061038	32		CEMENT4LT	4 Litre
	167061039	40			
	167061040	50			
	167061041	63			
	167061012	75			
	167061013	90			
	167061014	110			
			MEK Primer 	MEK250	250ml
				MEK1LT	1 Litre
				MEK5LT	5 Litre

Refer to the Pipe Clips, Dressing Sets and Backing Rings product list for a full range of accessories