

# +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:

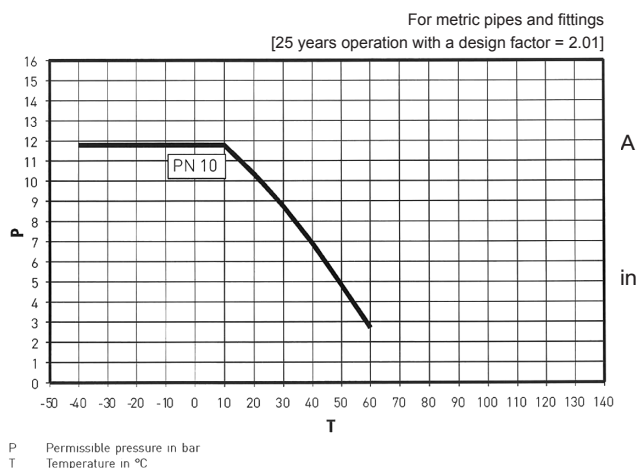
### Metric

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

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

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ABS METRIC FITTINGS								
	Code	OD (mm)	PN (bar)		Code	OD (mm)	PN (bar)	
<b>Adaptor Reducing Bush</b> 	729910434	20x $\frac{3}{8}$ "	10	<b>Flange Adaptor ABS Metric</b> 	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	
<b>Socket Union</b> 	729510105	16	10	<b>Adaptor Elbow 90°</b> 	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					
	729510112	75	10					
<b>Adaptor Union, Female, ABS/St.Steel</b> 	729540205	16x $\frac{3}{8}$ "	10	<b>Adaptor Socket</b> 	729910206	20x $\frac{1}{2}$ "	10	
	729540206	20x $\frac{1}{2}$ "	10		729910207	25x $\frac{3}{4}$ "	10	
	729540207	25x $\frac{3}{4}$ "	10		729910208	32x1"	10	
	729540208	32x1"	10		729910209	40x1 $\frac{1}{4}$ "	10	
	729540209	40x1 $\frac{1}{4}$ "	10		729910210	50x1 $\frac{1}{2}$ "	10	
	729540210	50x1 $\frac{1}{2}$ "	10		729910211	63x2"	10	
<b>Adaptor Union, Male, ABS/St.Steel</b> 	729540705	16x $\frac{3}{8}$ "	10	<b>Female Adaptor</b> 	729900406	20x $\frac{1}{2}$ "	10	
	729540706	20x $\frac{1}{2}$ "	10		729900407	25x $\frac{3}{4}$ "	10	
	729540707	25x $\frac{3}{4}$ "	10		729900408	32x1"	10	
	729540708	32x1"	10		729900409	40x1 $\frac{1}{4}$ "	10	
	729540709	40x1 $\frac{1}{4}$ "	10		729900410	50x1 $\frac{1}{2}$ "	10	
	729540710	50x1 $\frac{1}{2}$ "	10		729900411	63x2"	10	
<b>Hose Connector</b> 	729960405	16	10	<b>Male Adaptor, Spigot</b> 	729910505	16x $\frac{3}{8}$ "	10	
	729960406	20	10					
	729960407	25	10					
	729960408	32	10					
<b>Male Adaptor, Socket</b> 				729910556	20x $\frac{1}{2}$ "	10		
				729910557	25x $\frac{3}{4}$ "	10		
				729910558	32x1"	10		
				729910559	40x1 $\frac{1}{4}$ "	10		
				729910560	50x1 $\frac{1}{2}$ "	10		
				729910561	63x2"	10		

ABS METRIC ACCESSORIES								
	Code	Size OD (mm)		Code	Size			
<b>Pipe Clips</b> 	167061035	16	<b>ABS Solvent Cement</b> 	CEMENT250	250ml	<b>MEK Primer</b> 		
	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						

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