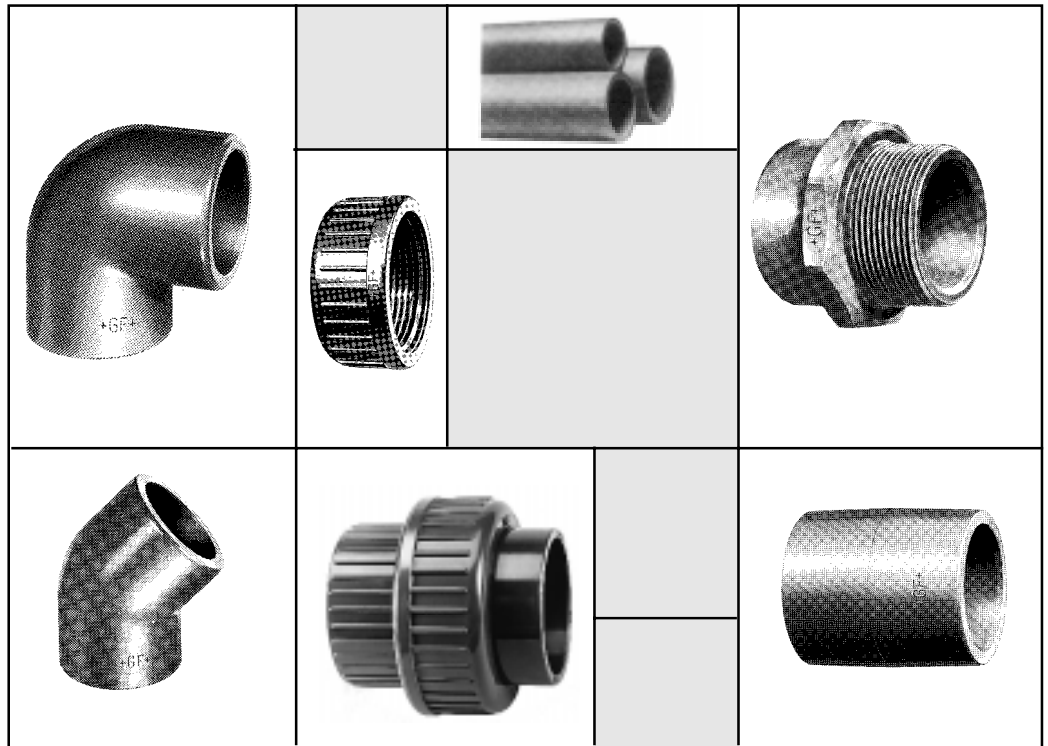


# ABS

## Pipe, fittings and hand operated valves



### General Information

With more than 30 years experience in the development and manufacture of plastic pipe fittings, George Fischer is a leader in respect of:

- reliability
- safety
- durability
- uniformly high quality

The range is so versatile that only very few customers requirements cannot be satisfied.

In addition to first class service and highly qualified technical advice, George Fischer ABS fittings are available to customers worldwide in appropriate national standards.

## Properties

ABS is a styrene and acrylonitrile copolymer grafted to polybutadiene to produce a homogenous material with high impact strength, good chemical resistance and good resistance to environmental stress cracking. Other advantageous features are its suitability for use at low temperatures (- 40°C) and its ease of jointing.

## Material

ABS is non-toxic and meets the following Articles in Contact with Food Regulations 1978 no.1927. Into operation on 26th November 1979. Plastics for Food Contact Applications: "A Code of Practice for Safety in Use", issued by the British Plastics Federation in co-operation with British Industrial Biological Research Association. Revised edition 1973: updated 1981.

### **Water Byelaws Scheme : Approved Product for hot and cold water.**

The material meets the requirements of Testing of Non-Metallic Materials for use with Potable (Drinking) Water. Water Byelaws Scheme/WRC tests of effect on water quality (based on BS6920). George Fischer ABS fittings and pipe are Water Byelaws Scheme Approved for above ground use with cold water. Listing reference 9606036

## Chemical Resistance

ABS is generally resistant to most diluted inorganic acids, bases and salts, and to organic acids and most animal oils and fats. It is not resistant to organic solvents such as esters, ketones, chlorinated and aromatic hydrocarbons, or to alcohol, petrol, acetic acid and vegetable oils. Where there is uncertainty about the probable behaviour of ABS when in contact with a specific chemical substance, we recommend prior consultation with our Technical Advisory Service.

## Standards

George Fischer inch fittings in ABS are generally in accordance with BS 5392 and the pipe with BS 5391.

## Technical Advisory Service

Our specialist sales engineers will be pleased to help with the solution of technical problems and to give advisory assistance in the planning and installation of plastics pipeline systems.

The following George Fischer Plastics Information Sheets are available on request:

C.00.1 General Information on ABS Pipe Systems.

D.01.4 Solvent cement jointing of ABS Pipe and Fittings.

**Pressure Ratings Fittings and Valves  
Table A**

Unless otherwise stated the pressure ratings are as follows:

Product	Size	Pressure Rating
Fittings Solvent Cement	3/8 - 4"	15 bar
	6"	12 bar
	2 1/2 & 8"	9 bar
Valves	all	12 bar
Actuated valves	all	10 bar

All pressure ratings are at 20°C

**Temperature and Pressure Relationship  
Table B**

Temp. °C	Class C bar	Class D bar	Class E bar
-40	9.0	12.0	15.0
-20	9.0	12.0	15.0
0	9.0	12.0	15.0
20	9.0	12.0	15.0
30	7.5	10.0	12.5
40	6.1	8.1	10.1
50	4.6	6.1	7.7
60	3.2	4.2	5.3

**Pressure Ratings Pipe  
Table C**

Pressure Class	Pressure Rating at 20°C		
	bar	ft. hd.	lbf/in <sup>2</sup>
B	6	200	87
C	9	300	130
D	12	400	173
E	15	500	217

**Temperature and Pressure**

The permissible working temperature range for ABS pipe system is from -40°C to 60°C. The pressure ratings for the ABS fittings and valves in this catalogue are listed in Table A. Pressure ratings of pipe are shown in Table C. Pressure ratings of pipe and fittings are always quoted with, and subject to, a given temperature, usually 20°C. They can be used at higher temperatures but it is a fundamental principle in plastics pipework that if the temperature is increased then the pressure must be reduced. Table B shows the maximum permissible pressures at various temperatures up to a maximum of 60°C. It will be seen that at temperatures above 20°C the recommended pressures are progressively reduced.

**ABS in sub-zero temperatures**

Although ABS pipe systems are suitable for use in temperatures as low as -40°C, it is necessary, as with any other pipeline materials, to take whatever precautions may be required to prevent the line fluid freezing and consequent damage to the pipe system.

**Solvent Cements**

A satisfactory solvent cement must be used for jointing. ABS pipe and fittings are jointed by means of a solvent cement which creates a chemical bond between the pipe and fitting. We recommend George Fischer ABS solvent cement. It is available from stockists of George Fischer plastics products in 1 litre and 1/2 litre tins. Instructions for use are printed on the tins.