6.0 CHEMICAL RESISTANCE

One of the main characteristics of plastics is their resistance to chemical agents; as every type of plastic is created from different chemical elements, their resistance to chemical attack consequently varies as well. To help with the choice of products, we have summarised below the chemical compatibility of the main materials used by Jencan in their producs. Note that the majority of our products are made from PA6, a material which has a natural resistance to chemica attack. On request, more detailed chemical compatibility lists are available through our sales office or technical department.

		PA 6 Polyamide	PS Polystyrene	ABS	PP Polypropylene	PC Polycarbonate	PE-LD Polyethylene low density	PE-HD Polyethylene high density
	Water	A	A	A	A	A	A	A
ACIDS	**Weak acids**	E	A	A	A	A	A	A
ACIDS	**Strong acids**	E	B	B	B	D	A	A
ACIDS	**Hydrofluoric acid**	E	B	A	B	B	A	A
ALKALIS	**Weak alkalis**	B	B	A	A	E	A	A
ALKALIS	**Strong alkalis**	A	A	A	A	E	A	A
	Inorganic salts	A	A	A	A	B	A	A
	Halogens	E	E	E	D	A	E	E
	Oxidant compounds	E	C	D	E	C	E	E
SOLVENTS	**Hydrocarbons Paraffins**	B	D	C	B	B	D	
SOLVENTS	**Halogens-Alkanes**	B	E	E	D	E	E	D
SOLVENTS	**Alcohols**	B	A	B	A	B	A	A
SOLVENTS	**Ethers**	A	D	E	C	E	D	C
SOLVENTS	**Esters**	A	E	E	B	C	B	A
SOLVENTS	**Ketones**	A	E	E	B	C	B	A
SOLVENTS	**Aldehydes**	B	D	D	A	E	B	
SOLVENTS	**Amines**	A	A	A	A	E	A	
SOLVENTS	**Organic acids**	B	B	A	B	C	A	A
SOLVENTS	**Aromatic compounds**	B	D	E	D	E	B	B
	Fuels	A	D	A	B	B	B	B
	Mineral oils	A	C	A	A	A	B	B
	Greases, oils	A	A	A	A	A	B	A

KEY

A STABLE

B From STABLE to LIMITED STABILITY

C LIMITED STABILITY

D From LIMITED STABILITY to UNSTABLE

E UNSTABLE

7.0 MECHANICAL RESISTANCE

Normally, to discover the resistance properties of a product, one consults the relevant data sheet. The product obtained using that particular material will consequently have the same characteristics.
However, for moulded plastics this is not always the case. The process of transforming plastic by means of injection moulding alters the resistance of the final product. The injection point, the cooling tensions, the non-constant distribution of reinforcements and additives, etc, are the main variables which influence the mechanical characteristics of the finished piece. For this reason, Jencan has decided to provide data obtained “in the field”; that is, specific tests to determine the degree of resistance of their products, by simulating every-day use of the products.
Jencan uses its own internal laboratory which is equipped with specific machinery such as dynamometers, climatic chambers, fatigue machines, durometers, and suitable clamping systems, to simulate the various breaking stresses applied to the handgrip.The results are then processed using special software which supplies data concerning the applicable driving torques, forces, twisting moments, breaking loads, etc.
Once the result has been obtained a safety coefficient of 1.3 is applied. The break strength data is already given on the pages of the catalogue relevant to the specific articles for which this information is most frequently requested; furthermore, arrows indicate the position and the direction of the forces applied during the tests.
Complete data sheets for each test carried out are available by contacting our sales office direct. Each sheet gives the test results, a description of the test by means of simple flow diagrams, details of the machines used.
On request, the breaking stress charts processed by the dedicated software are also available.
Note: These tests are carried out at a constant temperature of 23°C with controlled humidity. Therefore exposure to different temperatures and degrees of humidity, can vary the resistance characteristics. For specific uses, please contact our technical department.