

Blue Magic uses the following plastic materials: PA6 20% FV (nozzle body shower), PA66 (spring for tub code ST0100) and ABS (all other articles). Please find below some characteristics of these materials.

1. General features

Polyamids have good mechanical resistance, strong tenacity (in particular if humidified), strong resistance to usury; the glass reinforced type has strong resistance to the creep and exertion. They can be pasted through solvents (like formic acid).

ABS (acrylonitrile, butadiene, styrene) is stiff and strong, even at low temperature; it's hard and resistance to crash. The paste is achieved with solvents like acetone and methyl ethyl keton or stickies like epoxy resins, acrylics and cianoacrylics.

2. Physicists properties

	PA 6 20% FV	PA66	ABS	Law of reference
Specific gravity g/cm^3	1,35	1,14	1,05	ASTM D792
Water absorption (24h and 23 °C), %	2,1	2,8	0,3	ASTM D570
Print Retirement %	0,3-0,6	0,8-1,1	0,4-0,6	ASTM D955

3. Mechanical properties

	PA 6 20% FV	PA66	ABS	Law of reference
Traction resistance: enervation or rupture loaded, Mpa	175 (dry)/110 (condit.)	80 (dry)/ 55 (condit.)	55	ASTM D638
Lengthening enervation or rupture %	3 (dry)/ 5 (Condit.)	5 (dry)/ 20 (condit.)	25	ASTM D638
Maximum flexure loaded Mpa	250 (dry)/ 200 (condit.)	120 (dry)/ 85 (condit.)	75	ASTM D790
Elastic flexure Module +23 ° C, Mpa	6000	3150	2600	ASTM D790
Toughness Rockwell L	115 (dry)/ 95 (Condit.)	105 (dry)/ 75 (condit.)	111	ASTM D785
Izod + 23 °C, J/m	35	45	140	ASTM D256

4. Thermal property

	PA 6 20% FV	PA66	ABS	Law of reference
Time of distorsion HDT under loaded (1,80 Mpa), °C	160	90	86	ASTM D648
Time of melting Vicat (50 ° h 50N), °C	205	240	98	ISO 306

5. Chemical Resistances

Key: A: good B: fair C: poor

Resin in contact : 24h

No load applied

			PA 6 20% FV			PA66			ABS		
Concentration			23	60	100	23	60	100	23	50	75
INORGANIC ACIDS	Hydrochloric acid	10%	C	C	C	C	C	C	A		B
		35%	C	C	C	C	C	C	A		
	Nitric Acid	10%	C	C	C	C	C	C	A		
		35%	C	C	C	C	C	C	B	C	C
	Sulfuric Acid	10%	C	C	C	C	C	C	A		
		35%	C	C	C	C	C	C	A		
	Hydroflouric Acid	10%	C	C	C	C	C	C	A		
		50%	C	C	C	C	C	C	C		
	Chromic Acid	10%	C	C	C	C	C	C	A		
		50%	C	C	C	C	C	C	B		
Aqua regia	10%	C	C	C							
	50%	C	C	C							
ORGANIC ACIDS	Acetic acid	10%	B	C	C	B	C	C	A		
		50%	C	C	C	C	C	C	A		
	Citric acid	10%	A	A	A	A	A	A	A		
		50%	C	C	C	C	C	C	A		
	Formic acid	10%	B	C	C	B	C	C	A		
		50%	C	C	C	C	C	C	C		
	Tartaric acid	10%	A			A			A		
		50%	B			B			A		
Acrylic acid	10%	C	C	C							
	50%	C	C	C							
ALKALIES	Ammonia	10%	A	B		A	B		A		
		50%				A	B		A		
	Sodium hydroxide	10%	A		C	A	B	C	A		
		50%	A			B			A		
	Potassium hydroxide	10%			C	A		C	A		
		50%	A			B			A		
Ammonium hydroxide	10%	C	C	C	B	C	C	A		C	

		50%	C	C	C			C	A	
ALCOHOLS	Butyl alcohol (Butanol)	-	B			A	B	B		
	Methyl alcohol (Methanol)	-	B			B	C	C	C	C
	Ethyl Alcohol (Ethanol)	85%	B			B	C	C	C	C
	Cyclohexanol	-				B				
	Ethylene glycol	-	B			A		A		B
	Isopropyl alcohol (isopropanol)	-	B			B		B	C	C
	Glycolic Alcohol (Glycerol)	-								
KETONES	Acetone		A			B	C	C	C	C
	Cyclohexanone		A			A	A	A	C	C
	Formaldehyde	37%	B	C	C	A		B	C	C
	Methyl Ethyl Ketone		B			A	A	A	C	C
ESTERS	Ethyl Acetate		A			A	A	A	C	C
	Aliphatic esters									
ETHERS	Dioxane		A			A	A	A	C	C
	Ethylene Oxide		B		C	A			C	C
HALOGENATED ORGANIC COMPOSITES	Chloroform		C	C	C	B	C	C	C	C
	Methylene chloride		B			C	C	C	C	C
	Perchloroethylene		B	C	C	B	C	C	C	C
	Carbon Tetrachloride (wet)		A	A		A	A	B	C	C
	Trichloethylene		B		C	B	B		C	C
HYDROCARBONS	Benzene		A	A		A	A		C	C
	Pure petrol		A	A	A	A		B	C	C
	Ciclohexane		A			A		C	C	C
	Heptane		A			A		B	C	C
	Brake fluids		A	A	B	A	B		C	C

