

TECHNICAL

EMI SHIELDING

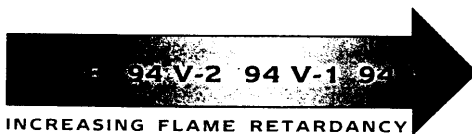
Electromagnetic Interference (EMI) is electronic pollution which is caused by rapidly changing voltage. It can cause computational errors or wipe out complete memories, much like electro-static discharge (ESD), if allowed to penetrate sensitive electronic components.

A Serpac EMI enclosure will offer a higher degree of protection than any painted surface. We do recommend that all end manufacturers conduct open field site measurements tests. This is the only way to determine (because of the enclosure) the actual emission and susceptibility of a complete system (product).

FLAMMABILITY

The principal use to which small-scale ignition/flammability tests are put by U.L. is to provide a basis for regulating the selection of plastics where they are used in small to medium sized parts in proximity to known

potential fire sources. Small-scale tests cannot and do not measure material performance in a fire. U.L. standard 94 defines two types of test. These tests lead to essentially four levels of ratings, for our products.



Depending on your final use and environment of operation it is likely a U.L. standard will need to be met. Serpac can provide a case material and certification for your needs.

STRENGTH (IZOD IMPACT TEST)

For a part to resist a particular blow without failure two conditions must be met:

- 1/ The part must absorb the total Kinetic energy of the blow.

ie., The striker must be brought to zero velocity and then rebound.

- 2/ The stresses developed within the part must not exceed the fracture strength of the material.

See table below for the performance figures for our standard and custom materials.

PROPERTIES OF PLASTIC MATERIALS

The list below contains the most common materials used by Serpac. It is intended to be a guideline to help the engineer select a polymer which best suits the need. Please specify if lot and process certification is required with your order.

If more information is required please give us a call. A minimum order quantity of 1000 cases is required for custom materials.

PROPERTIES OF SERPAC PLASTIC MATERIALS

MATERIAL PROPERTIES	STANDARD	CUSTOM MATERIAL						
	GE CYCOLAC ABS GSM	GE CYCOLAC ABS KJW	GE CYCOLAC ABS KJB	GE VALOX 357 POLYESTER	GE LEXAN 141R POLYCARBONATE	GE ULTEM1000 POLYETHERNIDE	ICI STAT-KON POLYCARBONATE	ICI E.M.I.-X S.S.F.R.
FLAMMABILITY U.L. Rating Test condition 0.060 CSA file L568108	94 HB	94 V-0	94 V-0	94 V-0	94 V-2	94 V-1	94 V-1	94 V-1
	6HB @ 1.51mm	A00 @ 1.95mm	6V0 @ 1.43mm	Colour: A00 @ 3.49mm D00 @ 2.0mm 6V0 @ 0.94mm Black: HWI-60 @ 1.62 Natural: HWI-22 @ 1.62	N/A	N/A	N/A	N/A
DEFLECTION TEMP. Unannealed (comp. moulded) 1/2x1/2x5" Bar Test condition 264 PSI 66 PSI	192°F 208°F	190°F	190°F 205°F	210°F 280°F	270°F	392°F 410°F	280°F	300°F 310°F
IZOD IMPACT 1/8" notched Test condition 73°F	7.0ft.-lbs/in.	4.0ft.-lbs/in.	4.0ft.-lbs/in.	10.0ft.-lbs/in.	15.0ft.-lbs/in.	1.0ft.-lbs/in.	1.3ft.-lbs/in.	1.1ft.-lbs/in.
TENSILE STRENGTH 1/8" thickness Test condition 73°F	6300 psi	6000 psi	5500 psi	7000 psi	9000 psi	15200 psi	25000 psi	7500 psi
FLEXURAL MODULUS 1/8x1/2x4" Bar Test condition 73°F	3.3 psi x 10 ⁵	3.3 psi x 10 ⁵	3.3 psi x 10 ⁵	3.0 psi x 10 ⁵	3.4 psi x 10 ⁵	4.8 psi x 10 ⁵	9.0 psi x 10 ⁵	4.75 psi x 10 ⁵
DIELECTRIC STRENGTH in air 62 mils Test condition 73°F	427 volts/mil	400 volts/mil	400 volts/mil	640 volts/mil	380 volts/mil	831 volts/mil	405/425 volts/mil	N/A
	STANDARD							
	CUSTOM MATERIAL							
	STANDARD MATERIAL (Except V-Series)	FLAME RETARDANT ABS GRADES	CHEMICAL RESISTANT HIGH IMPACT	HIGH IMPACT (Standard for V-Series)	HIGH TEMP. APPLICATIONS (400° F ambient)	STATIC DISSIPATE (10000 Ohms/Sq.)	ELECTROMAGNETIC SHIELDING (40-45 DB)	