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Rigid PVC (Polyvinyl Chloride)

Rigid PVC (Polyvinyl Chloride) is a comparatively low cost plastic with an exceptionally good resistance to attack by a wide range of chemicals.

Other properties are:
- Dimensional stability - almost no moisture absorption.
- Good electrical properties.
- Classified as self extinguishing.
- Easily fabricated.

Chemical Resistance
At temperatures up to 60˚C rigid PVC is resistant to most acids e.g. hydrochloric, phosphoric, sulphuric below 90% concentration and nitric below 50% concentration, alkalis, solutions of salts, gases and organic compounds such as fats, alcohols and aliphatic hydrocarbons. It is swollen and weakened by aromatic and chlorinated hydrocarbons, esters, ketones and aldehydes. It is not resistant to bromine, fluorine, chlorine gas in a hot damp environment and some concentrating oxidizing acids.

AVAILABILITY - RIGID PVC
- Rod
- Sheet
- Section
- Machined Parts

MECHANICAL PROPERTIES		Test Method	UPVC	Units
Density		DIN 53479	1.38	g/cm^3
Tensile Strength at Yield		DIN 53455	55	N/mm^2
Elongation at Break		DIN 53455	20 - 40	%
Modulus of elasticity		DIN 53457	3000	N/mm^2
Flexural Strength		DIN 53452	90	N/mm^2
Impact Strength		DIN 53453	not broken	mJ/mm^2
Notched Impact Strength		DIN 53453	3	mJ/mm^2
Ball Indentation Hardness		DIN 53456	120	N/mm^2
Rockwell Hardness		ASTM D785-51	R115	
Moisture Absorption		DIN 53495	0.2	%
Coefficient of Friction		DIN 53375	0.6	
THERMAL PROPERTIES				
Vicat Softening Point		DIN 53460	75	˚C
Heat Deflection Temperature 1.8 N/mm^2		DIN 53461	67	˚C
Coefficient of Linear Thermal Expansion		DIN 53752	8.10^{-5}	$˚C^{-1}$
Thermal Conductivity		DIN 52612	0.15	W/mK
Inflammability		UL94	V - O	
Continuous Maximum Service Temperature			60	˚C
Continuous Minimum Service Temperature			-15	˚C
ELECTRICAL PROPERTIES				
Volume Resistivity		DIN 53482	10^{15}	ohm cm
Surface Resistivity		DIN 53482	10^{13}	ohm
Dielectric Strength		DIN 53481	40 - 50	kV/mm
Dielectric Constant	50 Hz	DIN 53483	4	
	1 MHz		3	
Dielectric Loss Factor	50 Hz	DIN 53483	0.015	
	1 MHz		0.020	
Tracking Resistance	KB Method	VDE 0303	>600	
	KC Method		>600	