

### **1. General Properties**

HC-77 is a Chlorinated Poly Vinyl Chloride Resin manufactured by the chemical bonding of chlorine through the chlorination of suspension PVC. CPVC resin has higher chlorine content than regular PVC resin. Consequently, CPVC is suitable for the manufacturing of products that require outstanding tensile strength, hydrostatic pressure endurance, thermal resistance, chemical resistance, and flame retardance.

CPVC has the following outstanding characteristics:

- ▶ Mechanical Properties (Tensile, Bending, Hydrostatic Pressure Endurance)
- ▶ Thermal Resistance (Vicat Softening Point, Heat Deflection Temperature)
- ▶ Flame Retardance (Limiting Oxygen Index, Smoke Density)
- ▶ Chemical Resistance

### **2. Applications**

When blended with additives such as heat stabilizers and impact modifiers, HC-77 can be manufactured into a compound for the following applications:

- ▶ Fittings for Hot & Cold Water (Thermal Resistance, Hydrostatic Pressure Endurance)
- ▶ Fittings for Fire Sprinkler Systems (Flame Retardance, Hydrostatic Pressure Endurance)
- ▶ Fittings for Industrial Purposes (Chemical Resistance, Hydrostatic Pressure Endurance)
- ▶ Other non-plasticized applications requiring thermal resistance and flame retardance (Flame/Thermal Resistant Plates, Wigs, PVC Thermal Resistant Additives, etc.)

### **3. Polymer Properties (HC-77)**

<b>Property</b>	<b>Unit</b>	<b>Typical Value</b>	<b>Test Method</b>
Degree of Polymerization	-	700 ± 50	JIS 6721
K-value	-	58 ± 2	DIN 53726
Chlorine Content	%	67.3 ± 0.5	Oxygen Flask
Bulk Density	g/ml	0.57 ± 0.05	ASTM D 1895
Volatiles	%	Max. 0.3	ASTM D 3030
Glass Transition Temperature	°C	130	ASTM E 1356

#### 4. Physical Properties (HC-77)

Property	Unit	Typical Value	Test Method
Vicat Softening Temperature	°C	112 ± 3	ASTM D 1525
Tensile Strength	kg <sub>f</sub> /cm <sup>2</sup>	540 ± 20	ASTM D 638
Izod Impact Strength	kg·cm/cm	27 ± 5	ASTM D 256

\* HC- 77 100phr / Sn Stabilizer 3phr / MBS 6phr / Lubricants 3phr / Others (Colorants, Processing Aid) 5phr

#### 5. Storage, Packaging, and Safety

##### Storage

HC-77 should be stored in dry conditions at room temperatures below 25°C.

##### Packaging

Hanwha Solutions Corporation provides its customers with a product specific Material Safety Data Sheet (MSDS) that underlines potential health effects and safe handling, use, and transportation methods. Hanwha Solutions Corporation strongly encourages its customers to review the MSDS prior to material use. HC-77 is normally supplied as a powder in a 25kg paper bag with a polypropylene woven bag insert and polyethylene liner, or jumbo bag.

##### Safety

HC-77 is not formulated to contain any hazardous or regulated materials such as lead, cadmium, mercury, and chromium compounds. No hazardous or regulated materials are used during the manufacturing process of this material.

#### General Information

The data and recommendations contained in this document represent the current state of our knowledge and serve only as a guide to our products and their potential applications. Therefore, no warranty of specific property mentioned herein, or of its suitability or fitness for a particular purpose, is implied. Further information and recommendations for processing can be obtained from our technical support staff and representatives.