ARCTIC
PVC

Profiles Striking Range

Technical Information

Introduction

U-PVC Profiles Striking Range

Striking Range Colours

Striking White, Black, Steel, Purple, Red, Pink, Orange, Lime, Green, Olive and Blue.

U-PVC is a fire rated material, with high chemical resistance providing effective wall protection. U-PVC also has a wide operating temperature range (0°C - 80°C), forming a cost effective material that is easy to install.

Product Information

Name: Arctic PVC® Profile Range
Other names: Cladding
Abbreviation: -

Key Characteristics

- Fire rated to UL94 / V-0 / Class 1
- High chemical resistance
- Effective, reliable joining.
- Cost effective and easy to install

This document contains

Technical Datasheet

Physical properties	Test	Unit	Result
1. Specific gravity	ISO 1183	g/cm³	1.45
2. Water absorption	ISO 62	%	0.2
3. Maximum service temp. Upper temp limit (No stronger mechanical stress involved)	-	°C	60
Lower temp limit	-	°C	0

Mechanical properties	Test	Unit	Result
1. Tensile strength at yield	ISO 527	MPa	-
2. Elongation at yield	ISO 527	%	-
3. Tensile strength at break	ISO 527	MPa	45
4. Elongation at break	ISO 527	%	25
5. Impact strength	ISO 179	kJ/m²	no break
6. Notch impact strength	ISO 179	kJ/m²	-
7. Ball indentation / Rockwell hardness	ISO 2039-1	MPa	-
8. Shore-D	DIN 53505	-	80
9. Flexural strength	ISO 178	MPa	-
10. Modulus of elasticity	ISO 527	MPa	2500

Thermal properties	Test	Unit	Result
1. Vicat-softening point VST/B/50	ISO 306	°C	74
2. Heat deflection temperature HDT/B	ISO 75	°C	-
HDT/A	-	°C	-
3. Coefficient of linear thermal expansion	DIN 53752	$k^{-1}*10^{-4}$	0.7
4. Thermal conductivity at 20 °C	DIN 52612	W/(m*K)	0.2

Electrical properties	Test	Unit	Measure
1. Volume resistivity	VDE 0303	Ω x m	-
2. Surface resistivity	-	Ω	10^{13}
3. Dielectric constant at 1MHz	-	-	-
4. Dielectric loss factor at 1 MHz	DIN 53483	-	-
5. Dielectric strength	VDE 0303	kV/mm	21
6. Tracking resistance	IEC 60112	-	-

Additional data	Test	Unit	Measure
1. Bondability	-	-	-
2. Food compliance	FDA	-	-
3. Flammability	UL 94	-	V-0

Key

Yes	Limited	No or no data
+	Ω	-

All the above information is for guide purposes only. The data has been taken from standard test results provided by our manufacturer.

Chemical Datasheet

Agent	Conc %	Working temp.	
		20 °C	60 °C
Acetic Acid	100	+	-
Acetone	100	-	-
Ammonia	Conc.	+	o
Ammonium chloride	-	+	+
Amyl Alcohol	-	+	o
Benzene	-	-	-
Bleaching Solution	12,5 Cl	+	-
Boric Acid	100	+	o
Brake Fluid	-	+	+
Butyl Acetate	-	-	-
Calcium Chloride	-	+	+
Carbon disulphide	100	-	-
Carbon Tetrachloride	-	-	-
Chlorine, gas	100	o	-
Chlorobenzene	100	-	-
Chloroform	-	-	-
Citric Acid	10	+	+
Cresol	-	-	-
Cyclohexanone	100	-	-
Cyclohexene	100	+	o
Diesel Fuel	-	+	-
Diethylene oxide, THF	-	-	-
Ethyl acetate	100	-	-
Ethyl alcohol	96	+	o
Ethylene Chloride	100	-	-
Formic Acid	10	+	o
Frost protection agent	Petrol	+	+
Fuel, aromatic free	-	+	+
Glycerine	100	+	+
Glycol	100	+	+
Heating oil	-	+	+
Heptane	100	+	+
Hydrochloric acid	Conc.	+	+

Chemical Datasheet Continued

Agent	Conc %	Working temp.	
		20 °C	60 °C
Hydrofloric acid	40	+	o
Hydrogen peroxide	10	+	+
Hydrogen Sulphide	-	+	+
Isopropyl Alcohol	100	+	-
Mercurochrome	-	o	-
Methyl alcohol	100	+	+/o
Methyl ethyl ketone	100	-	-
Methylene chloride	100	-	-
Nitric acid	50	+	+
Nitrobenzine	-	-	-
Oxalic Acid	-	+	+
Ozone, gas	ca. 0,5 ppm	+	+
Paraffin Oil	100	+	o
Perchlorethylene	-	-	-
Petroleum	100	+	+
Petroleum, aromatic free	100	+	+
Phenol, aqu	ca.9	o	-
Phosphoric Acid	50	+	+
Potassium hydroxide liquor	50	+	+
Propyl alcohol	-	+	o
Pyridine	-	-	-
Silicone oil	-	+	+
Sodium carbonate. aqu	-	+	+
Sodium chloride, aqu	-	+	+
Sodium Hydroxide liquor	15	o	o
Sodium Hydroxide liquor	60	o	o
Sodium hydrogen sulphite	-	+	+
Sodium nitrate, aqu	-	+	+
Sodium thiosulfate	-	+	+
Sulphuric Acid	96	+	+/o
Tetrahydrofurance	100	-	-
Toluene	100	-	-
Trichlorethylene	100	-	-
Xylene	-	-	-

Key

Yes	Limited	No or no data
+	Ω	-

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Safety Datasheet

Safety properties

Substance/preparation and Company detail
Product Name: Rigid Polyvinyl Chloride
Material Name: Polyvinyl Chloride Homopolymer
CAS Number: 9002-86-2
Material Synonyms: PVC
NFPA Ratings: Health=1, Fire=0, Reactivity=0

Igloo Surfaces
Unit 12C
Goldthorpe Ind. Est.
Rotherham
S63 9BL
01709 329117

Composition / Indications to components
Calcium-Zinc stabilized PVC sheets. Pigments and additives used to enhance specific properties are encapsulated in the polymer resin matrix. No solvents. No plasticizers. No cadmium, lead, or other heavy metals used.

Possible Dangers
- No particular hazards known.
- Effects of a Single Overexposure.
- Swallowing: Non-relevant.
- Skin absorption: Non-relevant.
- Inhalation: Non-relevant.
- Skin contact: Exposure is not expected to cause adverse health effects.
- Eye contact: Non-relevant.
- Effects of a Repeated Overexposure: None currently known.
- Medical Conditions Aggravated by Overexposure: None currently known.
- Other Effects of Overexposure: None currently known.

First-aid Measures
- In general handling the material will not cause accidents.
- Inhalation.
- If exposed to combustion fumes in high concentration - Bring victim to fresh air. Seek medical attention.
- Ingestion.
- Non-harmful. If irritation caused, seek medical advice.
- Skin Contact.
- Burns resulting from accidental contact with molten material must be flushed immediately with cold water.
- Do not remove the polymer from the skin. Seek medical attention.
- Skin Absorption.
- Non-harmful.
- Eye Contact.

Fire-fighting Measures

- Extinguisher type.
- Water spray or CO2. CO2 is less recommended due to lack of cooling capacity.
- Special firefighting procedures.
- Personnel without suitable respiratory apparatus should leave the affected area.
- Special protective equipment for fire fighters
- Positive-pressure self-contained breathing apparatus, protective closing, gas mask approved for acid vapours.
- Unusual fire and explosion hazards
- PVC is a self-extinguishing fire retardant material, which being exposed to open fire and high temperatures
- Decomposes emitting large quantities of HCl, which tends to extinguish the flames.
- It does not continue to burn after ignition without an external fire source.
- HCl has a strong acidic odour that causes sensory alert at low concentrations. HCl odour threshold = 0.77 ppm.
- Exposure to high concentrations of HCl will cause irritation of the respiratory passages.
- Soot emitted when PVC is forced to burn may obscure visibility.

Measures in case of unintended release

No special precautions and no personal protective equipment needed. Collect mechanically for disposal.

Handling and storage

- General handling precautions.
- Avoid contact with eyes.
- Ventilation.
- General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled.
- No explosion hazard. In the event of fire, cool and overlap product with water.
- Static electricity discharge sparks possible during handling. Avoid contact or vicinity of flammable materials.
- When opening truck or rail car for unloading, ventilate before entering.
- Store in a cool shady area. No special technical protective measures required.

Limitation of exposition

- Respiratory protection: No special protection needed.
- Hand protection / protection gloves: No special protection needed.
- Eye protection: No special protection needed.
- Other protective equipment: No special protection needed.

Physical and chemical characteristics

- Appearance: Flat or corrugated plastic sheets.
- Physical State: Solid.
- Colour: Clear or coloured.
- Odour: None.
- Density: 1.35-1.45 gr/cm3.
- Heat Deflection: 62-65°C.
- Boiling Point, 760 Hg: Not relevant.
- Viscosity: Not relevant.
- Solubility in Water: <0.1g/100mL at 23°C.
- pH Value: Not relevant.
- Flash Point: 391°C ASTM D 1929.
- Auto-ignition Temp.: 454°C ASTM D 1921.

- Flammability Limit: None.
- Explosion Limits: None.
- Evaporation Rate: Not relevant.
- Percent Volatiles: Not relevant.

Stability and reactivity

- Stability: Stable.
- Reactivity: Hazardous polymerization: Will not occur.
- Hazardous reactions: none.
- Conditions to avoid:
- Excessive heat, or open flame. Temperature above 150°C will decompose raw polymer resin and liberate HCl.
- Incompatible materials
- Oxidizing agents or strong mineral acids can cause reaction.
- Thermal decomposition begins above 150°C caused by re, overheating during improper processing.
- Hazardous decomposition products
- Burning can produce the following combustion products:
- Carbon monoxide (CO) - is highly toxic if inhaled.
- Carbon dioxide (CO2) - in sufficient concentrations can act as an asphyxiant.
- Hydrogen chloride (HCl) - in high concentrations cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes.

Toxic information

- PVC materials have a very low acute toxicity.
- Acute Toxicological Information.
- Acute oral toxicity: None.
- Acute percutaneous toxicity: None.
- Acute vapour exposure: None.
- Primary skin irritation: No irritation.
- Eye irritation: No irritation.
- Sensitization: No information available.
- Chronic effects: Unknown.
- Carcinogenicity: None.
- No known toxicological effects with normal use.

Ecological information

- Persistence and degradability.
- Detailed studies have not been conducted concerning the environmental fate of the product.
- According to present knowledge no unfavourable ecological effects are to be expected.
- Not generally hazardous to water. Insoluble in water, non-toxic solid.
- Mobility: No information currently available.
- Persistence and biodegradability: Biodegradation period - tens of years.
- Bio-accumulative potential: No information currently available.

Environmental Risks

- No hazard expectation to terrestrial or aquatic flora and fauna.
- Eco-toxicity: LD50 (rats) > 10 gr/kg.: IC50 (bacterial inhibition) - no data available.
- Aquatic toxicity: LC50 (daphnia magna) - no data available.: LC50 (fathead minnow – fish) - no data available.

Other information

All available ecological data have been taken into account for the development of the hazard and precautionary information contained in this safety data.

Waste-disposal information

- The product is not considered hazardous under current EPA hazardous waste regulations.
- Recycling is the preferred method of disposal.
- Alternatively, the product may be disposed of in an approved landfill.
- High temperature incineration under controlled conditions due to formation of HCl.
- All wastes should be evaluated in conjunction with applicable solid and hazardous waste regulations.
- Leaching Procedures (TCLP), and disposed of as appropriate.
- This product does not contain any cadmium or other heavy metal pigments or stabilizers.
- It is the user's responsibility to dispose of all wastes in accordance with all national and local regulations.

Transport information

- Additional transportation data : Not currently regulated under Department of Transportation regulations.
- Labelling : No labelling is required in accordance with the EEC directives.
- Placarding : No placarding is required in accordance with the EEC directives.
- Special transport requirements : None.
- Packaging : Avoid dark-coloured packaging to prevent heat distortion.
- The product is classified as a non-hazardous material in the meaning of transport regulations.

Regulations

- With regards to dust formed as a consequence of mechanical treatments, the appropriate regulations value limits for fine dust must be observed: MAC value (fine dust) – 5mg/m3.
- OSHA Hazard Communication Classification for dusts and combustion fumes: Irritant, Skin Hazard, and Lung Hazard.
- SARA Title III Classification for dusts and combustion fumes: Acute Health Hazard; Chronic Health Hazard.
- WHMIS Classification: Non-hazardous.

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