



## U-PVC Hollow Rod Extruded

Grey (RAL 7011) / Ivory

U-PVC is rated self-extinguishing, has excellent chemical resistance with high mechanical and tensile strength, together with a high degree of stability. U-PVC is easily weldable but has a limited operating temperature range of 0°C to +60°C.

### *product information*

|               |                                  |
|---------------|----------------------------------|
| Name:         | Unplasticised Polyvinyl Chloride |
| Other names:  | GEHR PVC-U                       |
| Abbreviation: | U-PVC                            |

### *key characteristics*

- » Machines well to a polished finish
- » Solvent Cemented & Welded
- » Relatively less expensive than other plastics
- » Strong and stiff
- » Flame retardant grades available
- » Chemical resistant
- » Self extinguishing
- » UV stabilised grades available
- » Drinking water approved
- » Food compliant grades available

### *applications*

- » Corrosive fluid handling
- » Valves
- » Tanks
- » Water applications
- » Air conditioning & ventilation systems
- » Threaded bolts

### *this document contains*

- » Technical Datasheet (Page 1)
- » Chemical Datasheet (Page 2)
- » Safety Datasheet (Pages 3-4)

For any further information regarding food, fire and water certificates then please contact the sales team on 0116 232 1010

#### **Head Office - Leicester**

68 Scudamore Road, Braunstone Frith Industrial Estate, Leicester LE3 1UA  
 Telephone / 0116 232 1010  
 Fax / 0116 287 3577  
 Email / [sales@oadbyplastics.co.uk](mailto:sales@oadbyplastics.co.uk)  
 Web / [www.oadbyplastics.co.uk](http://www.oadbyplastics.co.uk)

# U-PVC Hollow Rod Extruded

## Grey (RAL 7011) / Ivory



### technical properties

| Physical Properties   | Test     | Unit              | Result |
|---|----------|-------------------|--------|
| 1. Specific gravity   | ISO 1183 | g/cm <sup>3</sup> | 1.45   |
| 2. Water absorption in saturation   | ISO 62   | %                 | <0.2   |
| 3. Maximum service temp. Upper temp limit<br>(no stronger mechanical stress involved) | -        | °C                | 60     |
| Lower temp limit  | -        | °C                | -15    |

| Mechanical Properties                   | Test       | Unit              | Result   |
|---|------------|-------------------|----------|
| 1. Tensile strength at yield            | ISO 527    | MPa               | -        |
| 2. Elongation at yield                  | ISO 527    | %                 | 3        |
| 3. Tensile strength at break            | ISO 527    | MPa               | 30       |
| 4. Elongation at break                  | ISO 527    | %                 | >10      |
| 5. Impact strength                      | ISO 179    | kJ/m <sup>2</sup> | no break |
| 6. Notch impact strength                | ISO 179    | kJ/m <sup>2</sup> | 3        |
| 7. Ball indentation / Rockwell hardness | ISO 2039-1 | MPa               | -        |
| 8. Shore-D                              | DIN 53505  | -                 | 80 - 82  |
| 9. Flexural strength                    | ISO 178    | MPa               | 90       |
| 10. Modulus of elasticity               | ISO 527    | MPa               | -        |

| Thermal Properties                                 | Test Method | Unit         | Result |
|--|-------------|--------------|--------|
| 1. Vicat-softening point VST/B/50                  | ISO 306     | °C           | 75     |
| 2. Heat deflection temperature 1.8 MPa             | ISO 75      | °C           | -      |
| HDT/A  | -           | °C           | -      |
| 3. Coefficient of linear thermal expansion at 23°C | ASTMD 696   | µm/ (m * °K) | 80     |
| 4. Thermal conductivity at 23°C                    | DIN 52612   | W / (K *m)   | 0.14   |

| Electrical Properties              | Test Method | Unit  | Result            |
|------------------------------------|-------------|-------|-------------------|
| 1. Volume resistivity              | IEC 6093    | Ω x m | >10 <sup>15</sup> |
| 2. Surface resistivity             | IEC 6094    | Ω     | >10 <sup>13</sup> |
| 3. Dielectric constant at 1MHz     | IEC 60250   | abs   | 3                 |
| 4. Dielectric loss factor at 1 MHz | IEC 60250   | tan   | 0.01              |
| 5. Dielectric strength             | IEC 60243   | kV/mm | 20 - 40           |
| 6. Tracking resistance             | IEC 60112   | -     | -                 |

| Additional Data    | Test Method | Unit | Result |
|--------------------|-------------|------|--------|
| 1. Bondability     | -           | -    | +      |
| 2. Food compliance | FDA         | -    | +      |
| 3. Flammability    | UL 94       | -    | V-0    |

Key:

|     |         |               |
|-----|---------|---------------|
| Yes | Limited | No or no data |
| +   | o       | -             |

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

# U-PVC Hollow Rod Extruded Grey (RAL 7011) / Ivory



## chemical properties

| 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            |         | +            | o    |
| 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.   | +            | +    |

| Agent                      | Conc %      | Working Temp |      |
|----------------------------|-------------|--------------|------|
|                            |             | 20°C         | 60°C |
| Hydrofluoric 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  |
| Tetrahydrofuran            | 100         | -            | -    |
| Toluene                    | 100         | -            | -    |
| Trichlorethylene           | 100         | -            | -    |
| Xylene                     |             | -            | -    |

Key:

| Resistant | Partly Resistant | Non-Resistant |
|-----------|------------------|---------------|
| +         | o                | -             |

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

# U-PVC Hollow Rod Extruded

## Grey (RAL 7011) / Ivory



### *safety properties*

#### Substance/preparation and Company detail

Polyvinylchloride

Oadby Plastics  
68 Scudamore Road,  
Braunstone Frith Industrial Estate,  
Leicester,  
LE3 1UA  
0116 232 1010

#### Composition / Indications to components

Chemical characteristics: polymer of vinyl chloride  
CAS-number: not necessary

#### Possible dangers

Unknown

#### First-aid measures

General comment: medical aid is not necessary  
First-aid measures: none  
Routes of exposure: none  
Symptoms / effects: none

#### Fire-fighting measures

In case of fire please use gas mask and breathing equipment in depending of circulating air. Fire residues must be disposed of according to the local instructions. Suitable fire-fighting appliance: water fog, foam, fire fighting powder, carbon dioxide  
Hazard warning notice: not applicable

#### Measures in case of unintended release

Person-related measures: none  
Environmental protection measures: not applicable  
Cleaning equipment: not applicable  
Unsuitable cleaning products: not applicable

#### Handling and storage

Handling: no special regulations must be observed  
Storage: unlimited good storage property

#### Limitation of exposition

Special design of techn. processing facilities: not required  
Tolerance levels: none  
Exposure measurement procedures: none  
Respiratory protection: not required  
Eye protection: not required  
Body protection: not required

#### Physical and chemical characteristics

##### **Phenotype**

Phenotype / form: semi-finished product, solid state  
Colour: dark grey  
Smell: not applicable

##### **Change of state**

Flash point: not applicable

##### **Other remarks**

Density: 1.44 g/cm<sup>3</sup>

# U-PVC Hollow Rod Extruded

## Grey (RAL 7011) / Ivory



### *safety properties*

#### Stability and reactivity

Thermal decomposition: above appr. 200°C

Dangerous decomposition products:

Besides hydrochloric acid also carbon dioxide and water will develop during the burning process. In case of incomplete burning also carbon monoxide and traces of phosgene may arise.

Use of stabilisers: none

Exothermic reactions: none

Notices regarding state of aggregation: none

Conditions to be avoided: none

Substances/media to be avoided: none

#### Toxic information

During several years of usage no effects being harmful for the health were observed.

#### Ecological information

No biodegradation, no solubility in water, no effects being harmful to the environment must be expected.

Mobility: not applicable

Accumulation: not applicable

Eco-toxicity: not applicable

#### Waste-disposal information

Can be recycled or can be disposed of together with household rubbish (acc. To local regulations).

Waste key for the unused product: EAK-Code 120 105

Waste name: waste of polyvinylchloride

#### Transport information

No dangerous product in respect to / according to transport regulations

Notice/symbol transport containers: none

Special marking for containers: none

#### Regulations

Marking according to GefStoffV/EG: no obligation for marking

Water danger class: class 0 (self classification)

Domestic requirements to be observed: none

#### Further information

The information is based on our current knowledge. They are meant to describe our products in respect to safety requirements. They do not represent any guarantee of the described product in the sense of the legal guarantee regulations.