



## PPC Square Tubes - Extruded

### Beige (RAL 7032) / Black

PPC is light weight (SG 0.91), low water absorption, high impact strength combined with very good chemical properties. PPC has a wide operating temperature range (-20°C to +80°C), easily weldable and food compliant.

#### *product information*

|               |                         |
|---------------|-------------------------|
| Name:         | Polypropylene Copolymer |
| Other names:  | -                       |
| Abbreviation: | PPC                     |

#### *key characteristics*

- » Lower working temperature than PPH
- » Good chemical resistance
- » lower susceptibility to stress cracking
- » Improved impact strength at lower temperatures
- » High welding ability
- » Food compliant

#### *applications*

- » Ventilation
- » Food Industry
- » Chemical tanks
- » Pharmaceutical

#### *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

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### technical properties

| Physical Properties   | Test     | Unit              | Result |
|---|----------|-------------------|--------|
| 1. Specific gravity   | ISO 1183 | g/cm <sup>3</sup> | 0.91   |
| 2. Water absorption   | ISO 62   | %                 | 0.2    |
| 3. Maximum service temp. Upper temp limit<br>(no stronger mechanical stress involved) | UL 7466  | °C                | 100    |
| Lower temp limit  | -        | °C                | 5      |

| Mechanical Properties                   | Test     | Unit              | Result   |
|---|----------|-------------------|----------|
| 1. Tensile strength at yield            | ISO 527  | MPa               | 32       |
| 2. Elongation at yield                  | ISO 527  | %                 | 16       |
| 3. Tensile strength at break            | ISO 527  | MPa               | 28       |
| 4. Elongation at break                  | ISO 527  | %                 | >30      |
| 5. Impact strength                      | ISO 179  | kJ/m <sup>2</sup> | no break |
| 6. Notch impact strength                | ISO 179  | kJ/m <sup>2</sup> | 50       |
| 7. Ball indentation / Rockwell hardness | ISO 2039 | MPa               | -        |
| 8. Shore-D                              | ISO 868  | -                 | 77       |
| 9. Flexural strength                    | ISO 178  | MPa               | -        |
| 10. Modulus of elasticity               | ISO 527  | MPa               | 1635     |

| Thermal Properties                         | Test Method | Unit                              | Result |
|--|-------------|-----------------------------------|--------|
| 1. Vicat-softening point VST/B/50          | ISO 306     | °C                                | 91     |
| 2. Heat deflection temperature HDT/B       | ISO 75      | °C                                | 96     |
| HDT/A                                      | ISO 75      | °C                                | 54     |
| 3. Coefficient of linear thermal expansion | ISO 11359   | k <sup>-1</sup> *10 <sup>-4</sup> | 1.5    |
| 4. Thermal conductivity at 20 °C           | ISO 2200-4  | W/(m*K)                           | -      |

| Electrical Properties              | Test Method | Unit   | Result            |
|------------------------------------|-------------|--------|-------------------|
| 1. Volume resistivity              | IEC 60093   | Ω x cm | >10 <sup>13</sup> |
| 2. Surface resistivity             | IEC 60093   | W      | >10 <sup>13</sup> |
| 3. Dielectric constant at 1MHz     | IEC 60250   | -      | 2.3               |
| 4. Dielectric loss factor at 1 MHz | IEC 60250   | -      | 0.000             |
| 5. Dielectric strength             | IEC 60243-1 | kV/mm  | 40                |
| 6. Tracking resistance             | IEC 60112   | V      | -                 |

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

Key:

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

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### chemical properties

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

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

Key:

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

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### *safety properties*

#### Substance/preparation and Company detail

Polypropylene copolymer

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

#### Composition / Indications to components

Chemical characteristics: polymer of propylene  
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

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: grey  
Smell: not applicable

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

Crystalline melting range: 160-164 °C  
Flash point: not applicable

##### **Other remarks**

Density: 0.91 g/cm<sup>3</sup>

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### *safety properties*

#### Stability and reactivity

Thermal decomposition: above appr. 300 °C

Dangerous decomposition products:

Besides carbon black also carbon dioxide and water as well as low molecular parts of PP will develop during the burning process. In case of incomplete burning also carbon monoxide 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 Polyolefine.

#### 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.