

## PROGEF Plus → packed to preserve value



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→ **Completely  
Controlled Process**

System Specification

**PROGEF Plus**

Piping Systems in Polypropylene

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System solutions for  
mid-range water applications  
with a favorable  
price performance ratio

**+GF+**

## PROGEF Plus – System Specification

<b>Material</b>	Beta PP-H 100 (Beta Polypropylene Homopolymer) d20 - d225	State-of-the-art PP (Polypropylene) d250 - d315
Colour	RAL 7032 pebble grey	RAL 7032 pebble grey
Density	-0.90g/cm <sup>3</sup> (ISO 1183/ASTM D 792)	-0.90g/cm <sup>3</sup> (ISO 1183 / ASTM D792)
Linear expansion coefficient	0.16 mm/mK (DIN 53752)	0.16-0.18mm/mK (DIN 53752)
E-modulus	1300N/mm <sup>2</sup> (ISO 527/ASTM D790)	900N/mm <sup>2</sup> (ISO 527/ASTM D 790)
Thermal conductivity	0.23W/mK (EN 12664)	0.23W/mK (EN 12664)
Surface resistivity	> 10 <sup>16</sup> Ω (IEC 60093)	> 10 <sup>16</sup> Ω (IEC 60093)
<b>Dimension</b>	d20 – d315 in accordance to EN ISO 15494	
<b>Pressure Rating</b>	Pipes/Fittings/Diaphragm and ball valves: d20 – d225 SDR11, PN10, c=2.0 d50 – d225 SDR17.6, PN6, c=2.0 Butterfly valves: d63 – d225, PN10	Pipes/Fittings: d250 – d315 SDR11, PN10, c=2.0 d250 – d315 SDR17.6, PN6, c=2.0
<b>Temperature Rating</b>	From 0°C to 80°C (32°F – 176°F)	
<b>Production</b>	Fittings/valves: injection moulded Pipes: extruded Treatment: Every component is specially cleaned according to a process defined by +GF+. Pipes and fittings are silicon-, oil- and dustfree. Additional specifications for valves. Products especially suitable for the paint and microelectronics industry.	
<b>Surface Finish</b>	Inner surface Ra ≤ 1.0 µm (39 µin) for components d20 – d110 Inner surface Ra ≤ 1.5 µm (59 µin) for components d125 – d315	
<b>Marking</b>	All components are embossed with a permanent identification during the production process to ensure full traceability: Lot No Material Dimension Pressure Rating	
<b>Testing and Inspection</b> (EN ISO 15494)	Visual inspection Surface finish Dimension tolerance Pressure testing Full product range passed the Initial Type Test (ITT)	
<b>Approvals/Conformance<sup>(1)</sup></b>	FDA CFR 21 177.1520 USP 25 class VI (physiological non-toxic)	
<b>Welding Technology</b>	IR Plus, infrared fusion (DVS 2207-6): d20 – d225 Butt fusion (DVS 2207-11): d20 – d315	
<b>Documentation<sup>(2)</sup></b>	EN 10204 2.2 / EN 10204 3.1	
<b>Packing</b>	Pipes: Capped and double bagged in specified bag Fittings/valves: Each component double bagged in specified bag	
<b>Labeling</b>	Brand Name Product Description Code Number Material Dimension Approvals	
<b>Main Applications</b>	Due to the special treatment, PROGEF Plus piping systems are suitable for economical delivery of ultrapure water in semiconductor and TFT/FPD applications and ensure high quality in the paint industry. Highly resistant to impact, abrasion and many chemicals.	

<sup>(1)</sup> For thermoplastic material only

<sup>(2)</sup> On request