

**Grilon FG 40 NL nat 6021**

PA6

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

Product designation according to ISO 1874:

PA 6+PA 6I/6T, FR, 27-030N

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	<b>3000 / 1100</b>	MPa	ISO 527-1/-2

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	<b>222 / -</b>	°C	ISO 11357-1/-3

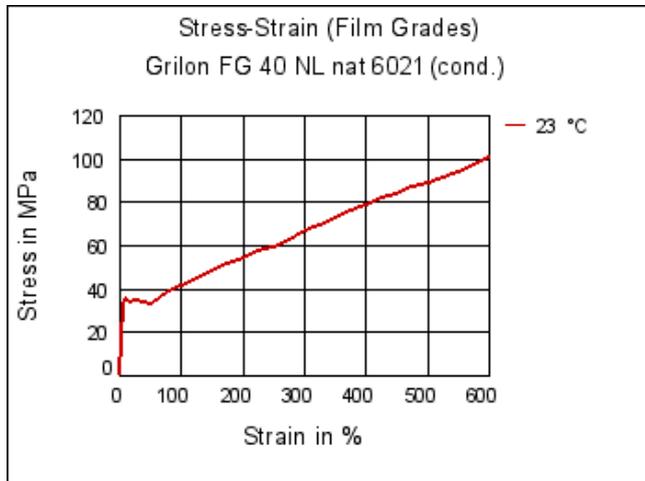
Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>9 / -</b>	%	Sim. to ISO 62
Humidity absorption	<b>3 / -</b>	%	Sim. to ISO 62
Density	<b>1140 / -</b>	kg/m <sup>3</sup>	ISO 1183

Film Properties	dry / cond	Unit	Test Standard
Stress at yield (parallel)	<b>35 / -</b>	MPa	ISO 527-3
Stress at yield (normal)	<b>35 / -</b>	MPa	ISO 527-3
Strain at yield (parallel)	<b>10 / -</b>	%	ISO 527-3
Strain at yield (normal)	<b>7 / -</b>	%	ISO 527-3
Maximum strain (parallel)	<b>600 / -</b>	%	ISO 527-3
Maximum strain (normal)	<b>800 / -</b>	%	ISO 527-3
Elmendorf Tear resistance (parallel)	<b>15 / -</b>	N	ISO 6383-2
Elmendorf Tear resistance (normal)	<b>15 / -</b>	N	ISO 6383-2
Trouser Tear resistance (parallel)	<b>50 / -</b>	N/mm	ISO 6383-1
Trouser Tear resistance (normal)	<b>50 / -</b>	N/mm	ISO 6383-1
Dynamic coefficient of friction	<b>0.25 / -</b>	-	ISO 8295
Gloss, 60°	<b>100 / -</b>	-	ISO 2813
WVTR (23°C/85%r.h.)	<b>10 / -</b>	g/(m <sup>2</sup> *d)	ISO 15106-1/-2
Oxygen transmission rate (23°C/0%r.h.)	<b>25 / -</b>	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
Oxygen transmission rate (23°C/85%r.h.)	<b>45 / -</b>	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
Carbon Dioxide transm. rate (23°C/0%r.h.)	<b>80 / -</b>	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
Carbon Dioxide transm. rate (23°C/85%r.h.)	<b>120 / -</b>	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
Stress at break (parallel)	<b>100</b>	MPa	ISO 527-3
Stress at break (normal)	<b>90</b>	MPa	ISO 527-3
Gelboflectest	<b>550</b>	holes/m <sup>2</sup>	EMS

Rheo/Phys properties	dry / cond	Unit	Test Standard
Melt volume-flow rate (MVR)	<b>20 / -</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>275 / -</b>	°C	ISO 1133
Load	<b>5 / -</b>	kg	ISO 1133

**Diagrams**


Stress-Strain (Film Grades)



Characteristics

Processing

Extrusion - cast film, Blown Film Extrusion, Other Extrusion

Product Attributes

Barrier Properties, High viscosity, Nucleated

Delivery form

Granules

Packaging

Non oriented film, Oriented film, Paper coating, Tubes, Medical packaging

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Food Contact

EU Requirements, FDA

Chemical Media Resistance

Acids

- ☺ Acetic Acid (5% by mass) (23°C)
- ☺ Citric Acid solution (10% by mass) (23°C)
- ☺ Lactic Acid (10% by mass) (23°C)
- ☹ Hydrochloric Acid (36% by mass) (23°C)
- ☹ Nitric Acid (40% by mass) (23°C)
- ☹ Sulfuric Acid (38% by mass) (23°C)
- ☹ Sulfuric Acid (5% by mass) (23°C)
- ☹ Chromic Acid solution (40% by mass) (23°C)

Bases

- ☺ Sodium Hydroxide solution (35% by mass) (23°C)
- ☺ Sodium Hydroxide solution (1% by mass) (23°C)
- ☺ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ☺ Isopropyl alcohol (23°C)
- ☺ Methanol (23°C)
- ☺ Ethanol (23°C)



## Hydrocarbons

- ☺ n-Hexane (23°C)
- ☺ Toluene (23°C)
- ☺ iso-Octane (23°C)

## Ketones

- ☺ Acetone (23°C)

## Ethers

- ☺ Diethyl ether (23°C)

## Mineral oils

- ☺ SAE 10W40 multigrade motor oil (23°C)
- ☺ SAE 10W40 multigrade motor oil (130°C)
- ☺ SAE 80/90 hypoid-gear oil (130°C)
- ☺ Insulating Oil (23°C)

## Standard Fuels

- ☺ ISO 1817 Liquid 1 (60°C)
- ☺ ISO 1817 Liquid 2 (60°C)
- ☺ ISO 1817 Liquid 3 (60°C)
- ☺ ISO 1817 Liquid 4 (60°C)
- ☺ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ☺ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- ☺ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ☺ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
- ☺ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

## Salt solutions

- ☺ Sodium Chloride solution (10% by mass) (23°C)
- ☹ Sodium Hypochlorite solution (10% by mass) (23°C)
- ☺ Sodium Carbonate solution (20% by mass) (23°C)
- ☺ Sodium Carbonate solution (2% by mass) (23°C)
- ☺ Zinc Chloride solution (50% by mass) (23°C)

## Other

- ☺ Ethyl Acetate (23°C)
- ☹ Hydrogen peroxide (23°C)
- ☺ DOT No. 4 Brake fluid (130°C)
- ☺ Ethylene Glycol (50% by mass) in water (108°C)
- ☺ 1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)
- ☺ 50% Oleic acid + 50% Olive Oil (23°C)
- ☺ Water (23°C)
- ☺ Deionized water (90°C)
- ☹ Phenol solution (5% by mass) (23°C)

