

Grivory GV-4 FWA black 9225

PA*-GF40

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA66+PA61/X, MH, 14-140, GF40

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	14000 / 13000	MPa	ISO 527-1/-2
Stress at break	230 / 210	MPa	ISO 527-1/-2
Strain at break	3 / 3	%	ISO 527-1/-2
Charpy impact strength (+23°C)	90 / 90	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	70 / 70	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	13 / 13	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	11 / 11	kJ/m ²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	255 / 230	MPa	ISO 2039-1

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	260 / -	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	235 / -	°C	ISO 75-1/-2
Temp. of deflection under load (8.00 MPa)	145 / -	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	15 / -	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	90 / -	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h	HB / -	class	IEC 60695-11-10
Thickness tested	0.8 / -	mm	IEC 60695-11-10
Max. usage temperature (long term)	100 - 120	°C	ISO 2578
Max. usage temperature (short term)	220	°C	EMS

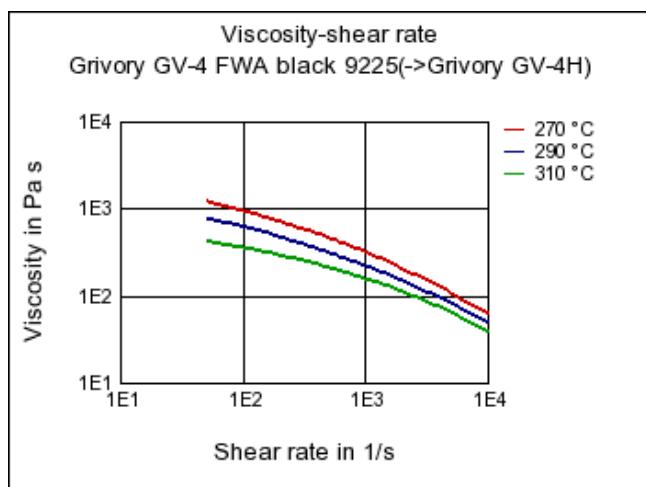
Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	1E12 / 1E12	Ohm*m	IEC 60093
Surface resistivity	- / 1E13	Ohm	IEC 60093
Electric strength	33 / 33	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	4.5 / -	%	Sim. to ISO 62
Humidity absorption	1.4 / -	%	Sim. to ISO 62
Density	1470 / -	kg/m ³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	0.6 / -	%	ISO 294-4, 2577

Diagrams

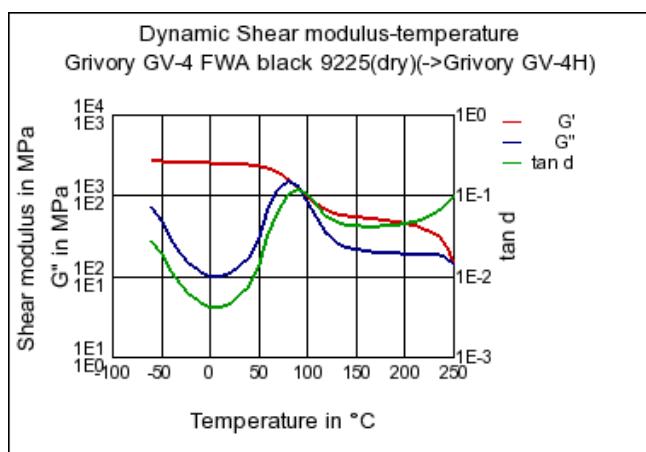
Viscosity-shear rate



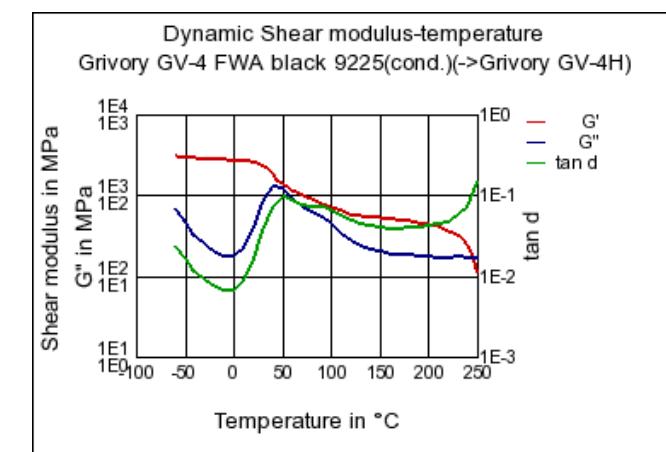
Shearstress-shear rate



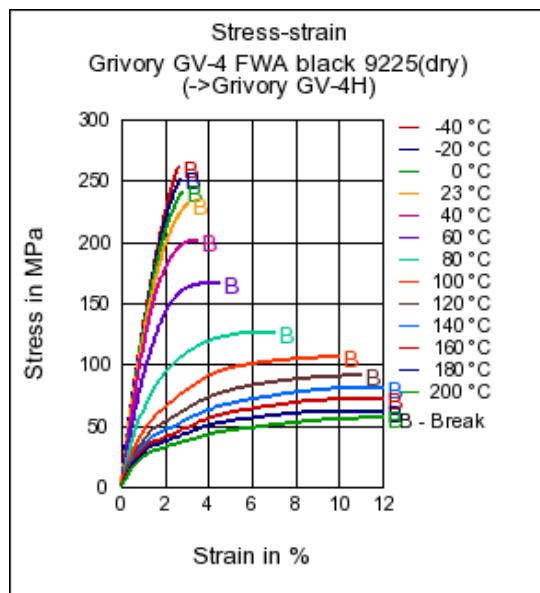
Dynamic Shear modulus-temperature



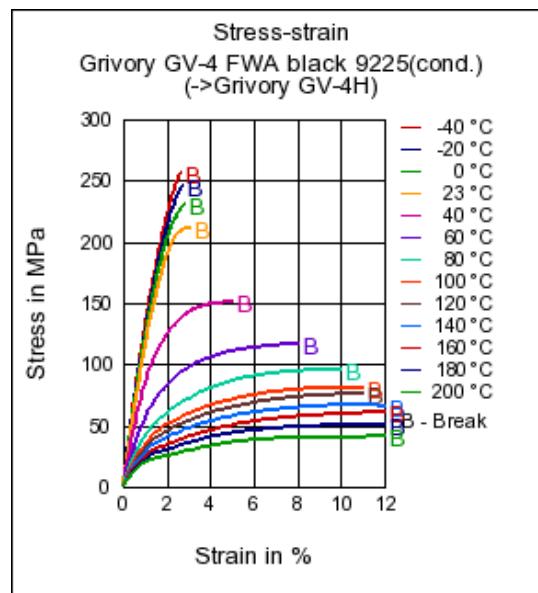
Dynamic Shear modulus-temperature



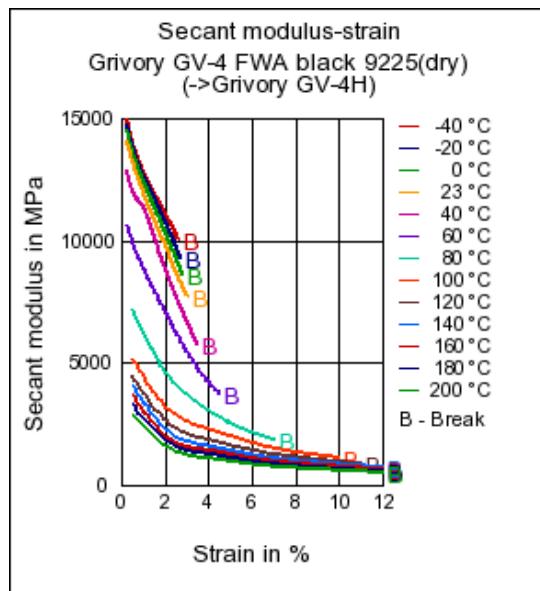
Stress-strain



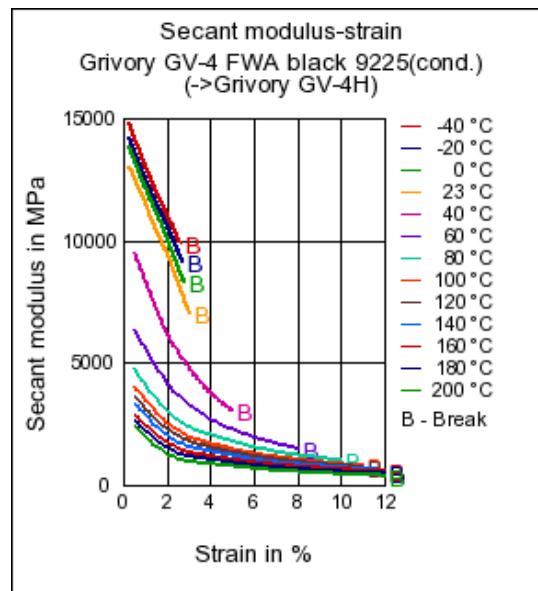
Stress-strain



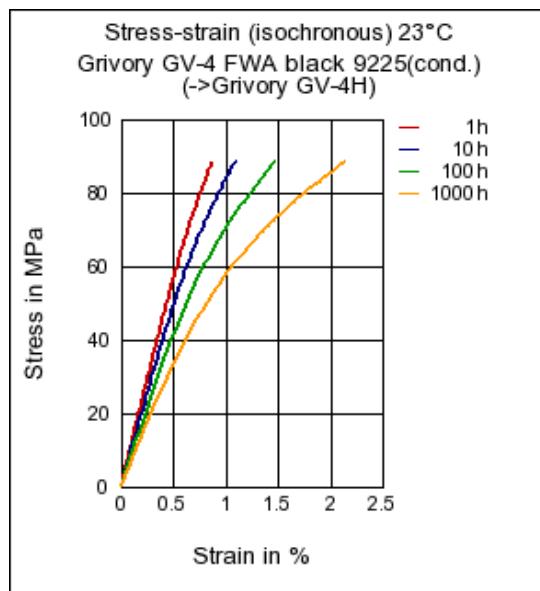
Secant modulus-strain



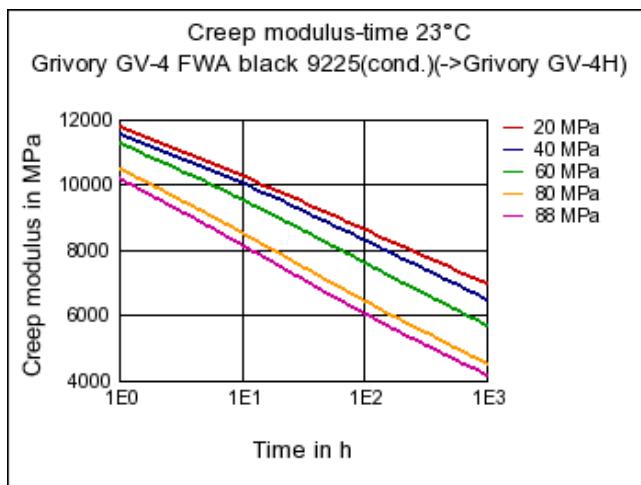
Secant modulus-strain



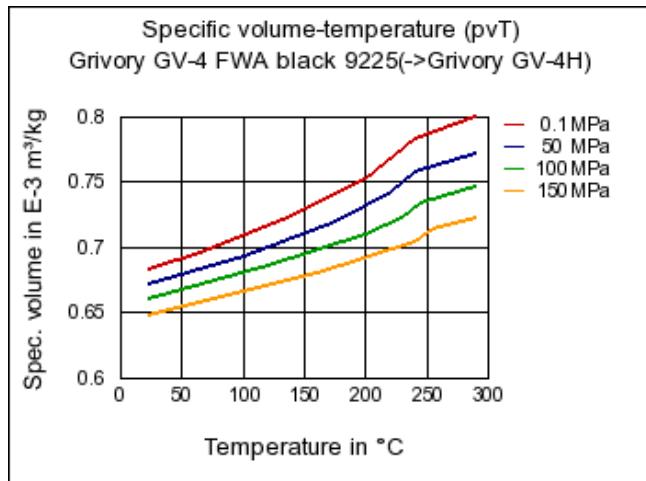
Stress-strain (isochronous) 23°C



Creep modulus-time 23°C



Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Delivery form

Granules

Regional Availability

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

Industry & Consumer goods

Housewares, Hydraulics & Pneumatics, Mechanical Engineering, Power transmission, Sanitary, water and gas supply

Food Contact

EU Requirements, FDA

Water contact

NSF 61, KTW, WRAS, ACS, DVGW W270

Product Attributes

Partially aromatic Polyamide