

# HIGH VISCOSITY. HIGHLY DURABLE.

INVISTA produces a line of premium high viscosity PA66 resins that combine wear resistance with durability. Their excellent retention of molecular weight during processing creates exceptional results in challenging specialty applications, giving injection molders, extruders and compounders access to tough, durable resins that are resistant to many solvents, oils and chemicals.

## Benefits

- Stable melt viscosity to allow wide processing window
- Excellent wear resistance
- Toughness and impact resistance

## Specialty Applications

### MONOFILAMENT

- General purpose
- Good flow
- Balanced molecular weight

### EXTRUSION

- Stock shapes, rods, profiles
- Wire coatings
- Tubing
- Sheet

### FILMS

- High-strength multilayer films
- Cast films

### INJECTION MOLDING

- Friction/wear components
- Gears
- Chain tensioners

## INVISTA Nylon Polymer

INVISTA is a global leader in the production of nylon intermediates and polymer resins. For more than 45 years, we've made nylon polymers that serve as the foundation for many different products across multiple markets including automotive, industrial, apparel and consumer electronics industries, to name just a few.

We are committed to helping our customers overcome their challenges and meet their objectives by providing the right resins and ingredients for their needs. Looking toward the future, we are continuing to strengthen our capabilities by investing in new ADN facilities.

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## Summary of Properties and UL Certifications

### INVISTA High Viscosity PA66 Resins

	Property	Unit	Method	HV80A	HV125A	HV125A HSL	HV240A	HV240A HSL	HV360A	HV360A HSL
Viscosity	VN at 0.5% in formic acid, nominal	mL/g	ISO 307	180	225	225	295	295	340	340
	VN at 0.5% in sulfuric acid, nominal	mL/g	ISO 307	190	235	235	300	300	340	340
	RV at 1% in sulfuric acid, nominal	—	—	3.2	3.7	3.7	4.6	4.6	5.2	5.2
	RV in formic acid, nominal	—	ASTM D789	80	125	125	240	240	360	360
Physical	Density	g/cm <sup>3</sup>	ISO 1183	1.14	1.14	1.14	1.14	1.14	1.14	1.14
	Mold shrinkage, 2.0 mm, parallel	%	ISO 294-4	1.4	1.7	2.0	1.3	1.7	1.4	2.0
	Mold shrinkage, 2.0 mm, transverse	%	ISO 294-4	1.5	1.7	1.8	1.5	1.8	1.3	1.9
	Water absorption – 24 hours	%	ISO 62	1.8	1.6	1.9	1.8	1.8	1.4	1.6
Mechanical	Tensile strength at yield	MPa	ISO 527	84	86	90	84	89	85	88
	Elongation at yield	%	ISO 527	4.4	4.4	4.4	4.2	4.4	4.3	4.4
	Elongation at break	%	ISO 527	45	40	30	50	25	40	25
	Tensile modulus	MPa	ISO 527	2900	3100	3000	3150	2950	3100	3000
	Flexural modulus	MPa	ISO 178	2950	2900	2900	2900	2900	2900	2950
	Flexural strength	MPa	ISO 178	101	99	96	100	97	97	102
	Notched Charpy at 23°C	kJ/m <sup>2</sup>	ISO 179	6.6	6.1	5.4	6.2	5.6	6.2	5.5
	Notched Charpy at -30°C	kJ/m <sup>2</sup>	ISO 179	5.7	6.4	6.6	6.4	6.1	6.6	6.6
	Unnotched Charpy at 23°C	kJ/m <sup>2</sup>	ISO 179	NB	NB	NB	NB	NB	NB	NB
	Unnotched Charpy at -30°C	kJ/m <sup>2</sup>	ISO 179	NB	NB	NB	NB	NB	NB	NB
Thermal	Notched Izod at 23°C	kJ/m <sup>2</sup>	ISO 180	5.0	4.9	5.1	5.5	5.3	5.8	4.9
	Melting temperature, 10°C/min	°C	ISO 11357	261	263	263	262	262	261	262
	HDT at 0.45 MPa	°C	ISO 75	187	202	181	206	209	191	186
	HDT at 1.80 MPa	°C	ISO 75	64	68	58	72	69	65	63
	UL Yellow Card	—	—	✓	✓	✓	✓	✓	✓	✓

### Request a Sample Today

INVISTA High Viscosity PA66 resins are available for sampling and qualification. Contact us today at [nylonpolymer.invista.com/contact](https://nylonpolymer.invista.com/contact) to learn how INVISTA can support your material needs.