


P^{PLUX}
PLUX 

C_2H_4 is $CH_2=CH_2$

Ellamid 6
PA 6

R&D
Modification
Consulting

Cc1ccc(cc1)C(C)(C)c2ccc(cc2)Oc3ccc(cc3)OC + n ClC(=O)CCl $\xrightarrow{-2nHCl}$ $\left[-O-C_6H_4-C(CH_3)_2-C_6H_4-O-C(=O)-CH_2-CH_2-C(=O)- \right]_n$

Korean plastic-technology leading the world

It's obvious that rapid development of Electronics, automobile and textile industry of Korea lies in technical development of plastic in many ways. Beginning stage of industrial development of Korea in 1970's till the high-tech industry 2010's today, we came through the historic experience of wide-use plastic and development of super-engineering plastic as well so far. Technicians of PLUX are living proof of all this know-how. As of today, developing countries speeding their economic growth world-widely join PLUX. PLUX will be your trust-worth partner for your plastic business one step forward.



PLUX – cooperate with customers

Recycling

Production of recycled plastic :
Produce quality plastic material using recycled plastic

Scrap

Gather and sort through wide channels of this industry in Korea

Modification

Suggest optimized plastic through reinforcement, removal of specific material.

Consulting

Some developing nations such as china, South-east Asian countries and India, still haven't found beneficiary in their industry by using plastic material with excessive-specification or off-grade which results in loss of cost and business opportunity. PLUX provide consulting service for our customers, analyze material, find appropriate material and design material on purpose of cutting down cost of our customer. Besides, PLUX also leads customers to higher value plastic industry.



Plastic compounding / Injection molding machine company (Waegwan-eup, Chilgok-gun, Gyeongbuk, Korea South)



PLUX-Gear of power

Help customer achieve goals to reduce material cost

- Analyze and find unnecessary material cost
- Design exactly meet custom's need and usage reducing unnecessary material cost

Distribution and production

In territory of Korea, has outstanding plastic distribution ability thanks to long history and network.

- Able to produce and source diversified range of plastic from wide-used ones to super-engineering plastic
- Able to collect plastic scrap at a very competitive price

Group of plastic experts, experienced the development of Korean plastic history

Experts with over 20 years of experience in designing plastic compound :

- Headlight for Korean automobile company
- Developed PET textile 3rd in the world
- Compound designing of plastic for Korean mobile phone
- Work as consultant & give lectures to Korean major companies in regard to plastic
- Work as consultant & give lectures to Korea textile development institute

**Experts over 20 years of
experience in designing
plastic processing machinery**

Design optimized machinery in
accord with customer needs
Design machinery reflect the
characteristics of plastic material



acrylonitrile

1,3-butadiene

CH2

P
LUX

PLUX Ellamid 6 Characteristic / Grade

PLUX Ellamid 6 represent the best value in all-purpose engineering materials. And based on polyamide-6 that is a thermoplastic resin with excellent mechanical, thermal and electrical properties.

PA 6 is widely used in the manufacture of automobile and industrial parts.

For molded parts, they offer an excellent balance of easy design and processing with outstanding mechanical properties over a wide temperature range and in diverse operating environments.

Wide temperature range

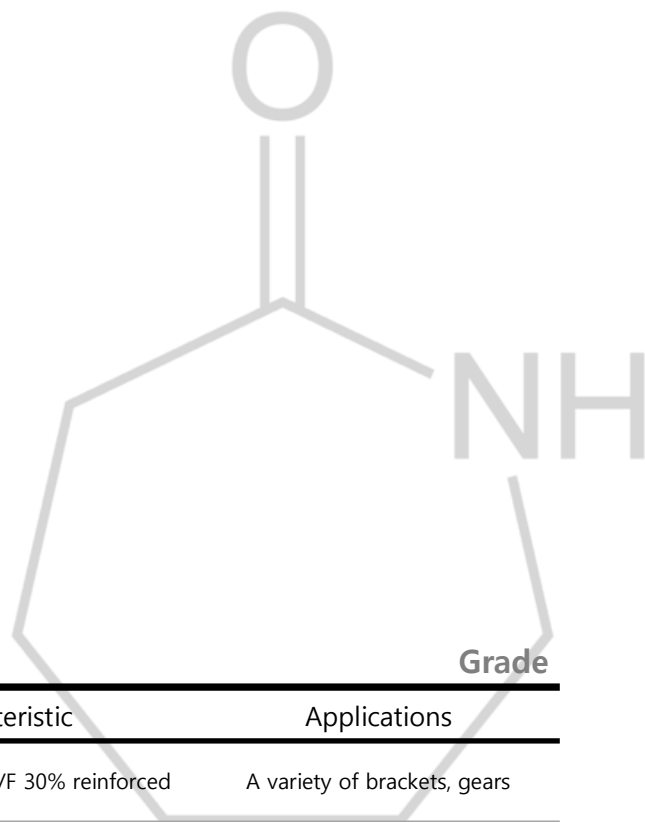
Excellent chemical resistance

Light weight

**Outstanding self-lubrication and
Abrasion resistance**

Good impact-absorbing characteristics

**Good mechanical properties and
Extreme toughness**



Grade			
Property	Grade	Characteristic	Applications
GF reinforced	Ellamid 8300A	Middle viscosity, G/F 30% reinforced	A variety of brackets, gears
GF reinforced Impact resistant	Ellamid 8302H	Middle viscosity, G/F 30% reinforced, Impact resistant reinforced	Junction boxes
GF reinforced Flame retardant	Ellamid 8201F	Halogen free, high flow	Chairs of subway train
Advanced	Ellamid 8440M	High thermal resistant, dimensionally stable	Roof racks, high strength and decay resistant parts for the exteriors

Cautions in Use / Injection molding Condition

Cautions in Use

1. As **PLUX Ellamid 6** is packed with moisture proof method in their conditions, please make sure to open it right before using it.
2. Please comply with the followings in using **PLUX Ellamid 6**
 - (1) Eliminate the resin from cylinder before and after the work. Particularly, eliminate the resin completely so as not to have some of it left in the cylinder, nozzles and hot runners.
 - (2) Furthermore, when you cleanse the cylinder with other resins, use a transparent polystyrene.
 - (3) When you use the resin after having PLUX Ellamid 6 opened for a long time, dry it in the dehumidifier with an air exhauster under the condition of 80 °C x 4 hours.
 - (4) When resin is exposed to open air with resin temperature lower than room temperature, the moisture on the surface of resin can be congealed. So keep the temperature of package the same with or higher than room temperature before use.

Injection molding Condition Guide

Take into account the following general Injection molding conditions.

		PLUX Ellamid 6		
Items		UNIT	Normal	Reinforced
Cylinder Temperature	Feeding part	°C	220 ~ 235	220 ~ 240
	Compression part	°C	240 ~ 245	240 ~ 255
	Gauging part	°C	240 ~ 245	240 ~ 260
	Nozzle	°C	230 ~ 250	230 ~ 255
Molding Temperature	-	°C	70 ~ 80	70 ~ 80
Injection Pressure	1 st pressure	Kg/cm ²	850 ~ 1,000	850 ~ 12,000
	2 st pressure	Kg/cm ²	450 ~ 500	450 ~ 600
Backpressure	-	Kg/cm ²	5 ~ 8	5 ~ 7

Applications

Polyamide 6 (PA6) is widely used in many different markets and applications due to their very good performance / cost ratios. Many parts are made with these polyamides in the Transportation, Electronics & Electrical, Consumer goods, Building & Construction and Packaging industries. They are by far the most used Polyamide globally.

The molding cycles are quick, providing an economical interest. Polyamide 6 answer the requirements of numerous applications in the following markets:

Automotive

Thanks to their good processability, PA 6 is often used as an alternative to metal in automotive under the hood parts where design flexibility as well as temperature and chemical resistance are critical. They ultimately contribute to weight savings, which offers CO₂ emissions reduction opportunities.

Electrical & Electronics

PA 6 can easily be flame retarded, are good candidates. Halogenated and non Halogenated FR solutions are commercially available. Moreover, they also bring solutions in this industry where miniaturization reinforces the needs for high temperature resistance and thin designs (possible due to good processability)

Consumer and Industrial Goods

Thanks to its easy molding, good colorability, nice surface aspect, and excellent mechanical resistance. And excellent material when complex designs are needed, it is also a cost efficient solution.



PLUX Ellamid 6 Property

Physical property

		Specific Gravity	Water Absorption	Mold Shrinkage
Test Method(ASTM)		D792	D570	D955
UNT		-	%	%
GF reinforced	Ellamid 8300A	1.36	0.4	0.2
GF reinforced Impact resistant	Ellamid 8302H	1.35	0.3	0.3 ~ 0.7
GF reinforced Flame retardant	Ellamid 8201F	1.22	1	0.9 ~ 1.1
Advanced	Ellamid 8440M	1.46	0.4	0.1 ~ 0.3

- Condition of Water Absorption rate : 23°C, water, 24hr
Above data are not the spec of products, but only for reference.

Mechanical property

		Tensile strength	Tensile elongation	Flexural strength	Flexural modulus	Impact Strength (Izod)	Hardness (Rockwell)
Test Method(ASTM)		D638	D638	D790	D790	D256	D785
UNT		Kg/cm ²	%	Kg/cm ²	Kg/cm ²	Kg·cm/cm	R scale
GF reinforced	Ellamid 8300A	1,640	7.9	2,630	88,400	12	116
GF reinforced Impact resistant	Ellamid 8302H	1,220	5.6	1,690	67,700	19	107
GF reinforced Flame retardant	Ellamid 8201F	750	6.6	1,270	37,200	4.7	116
Advanced	Ellamid 8440M	1,220	6.6	2,070	70,500	5.6	116

Above data are not the spec of products, but only for reference.

PLUX Ellamid 6 Property



Thermal property

		Melting Point	Coefficient of liner expansion	Heat deflection temperature		Flammability Classification
Test Method(ASTM)		D3418	D696	D648		UL94
UNT		°C	cm/cm°C(x10 ⁻⁴)	°C		
				4.6Kg/cm ²	18.6Kg/cm ²	
GF reinforced	Ellamid 8300A	220	0.3	210	205	HB
GF reinforced Impact resistant	Ellamid PA8302H	220	0.3	200	190	HB
GF reinforced Flame retardant	Ellamid 8201F	220	0.5	200	175	V0
Advanced	Ellamid 8440M	220	1.4	210	203	HB

- Condition of Water Absorption rate : 23°C, water, 24hr
Above data are not the spec of products, but only for reference.

Electrical property

		Arc Resistance	Dielectric Constants	Dielectric Strength
Test Method(ASTM)		D495	D150	D149
UNT		sec	10 ⁶ Hz	KV/mm
GF reinforced	Ellamid 8300A	130	3.6	21
GF reinforced Impact resistant	Ellamid PA2H	130	3.6	21
GF reinforced Flame retardant	Ellamid 8201F	120	3.5	20
Advanced	Ellamid 8440M	136	3.5	22

Above data are not the spec of products, but only for reference.

As you may notice with the product catalogue,
Our priority is to grow up together with our customers,
to value highly on efficiency saving customer's time and cost.

In order to provide you more specified information,
price and optimal material, your cooperation is needed.

**For
Inquiry**

Could you please share your time in giving some information as follows?

1. Material

**: In case you provide us currently used property table & picture
no other information is needed.**

- 1) Kind of material (ex: PBT, PP. HDPE. PA6-GF30, ABS, PC...)
- 2) which type of process injection, extrusion or blow ?
- 3) What color do normally use? (black, natural, gray ...)

2. Product

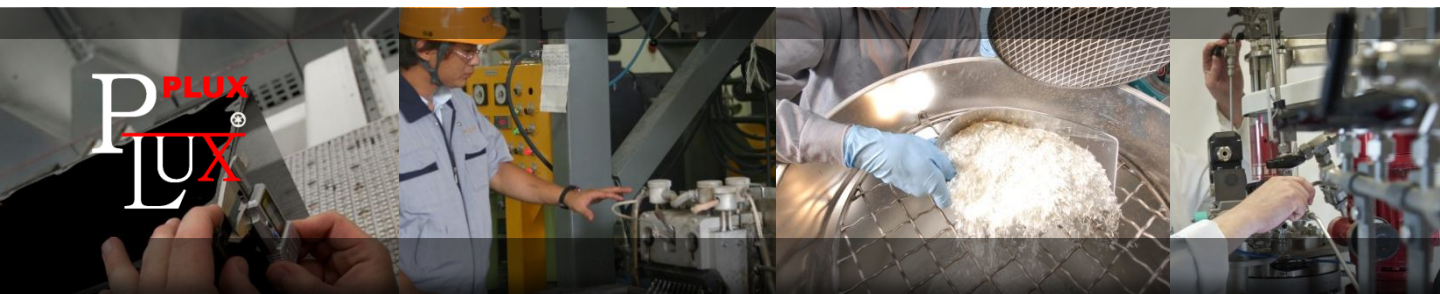
- 1) Name and usage of final product (ex. car, electricity, press)
- 2) Please send us some product pictures. By email(ruso@rusokr.com)
----> This is essential because we will recommend optimal material
for your product with better grade and competitive price

3. Estimated order quantity (on a monthly basis)

4. Requirement to ruso Inc. (Price. Sample)

5. Currently importing country(Korea, Germany. Japan. domestic supplier...)

**Thank you in advance for your cooperation
and we look forward to receiving your inquiry.**



PLUX[®]

Ellamid 6

PA6

R&D
Modification
Consulting

ruso

Inc.

Head office

Zip) 701-827, 308-1,
Sincheon-dong, Dong-gu,
Dageu, Korea South

Plastic Factory

267-13, Samcheong-ri,
Waegwan-eup, Chilgok-gun,
Gyeongsangbuk-do, Korea South

Tel) +82-70-7536-7889

Fax) +82-53-759-4758

Email) ruso@rusokr.com

www.rusokr.com

