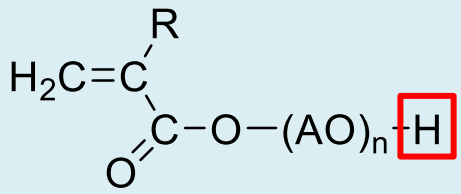
Terminal hydroxyl group PAG mono (meth) acrylate
BLEMMER® AP-D, PP-D (Developed product)

Characteristics

- Compared to conventional products, gelatinization is suppressed during polymerization, that results in reducing viscosity.
- The presence of a terminal hydroxyl group makes it easier to react with isocyanate and epoxy groups.
- Product with longer polyalkyleneglycol（PAG) chain is now available
- A PAG chain can be introduced to co-polymer with other monomers.

Lineup



R = H or CH_3, AO = Alkyleneoxide

Product Name	Structure			Properties	
	R	AO	n	Appearance	Kinetic viscosity (mm^2/s, 40℃)
BLEMMER® AP-400D	H	PO	6	Colorless to yellowish liquid	24
BLEMMER® AP-1000D			17		79
BLEMMER® PP-500D	CH_3		9		26
BLEMMER® PP-1000D			19		65
BLEMMER® PP-2000D			34		165

* Can be customized upon request.

Gelatinization suppression effect

Homopolymers were synthesized under the following conditions using conventional product and developed product(BLEMMER® AP-D). The developed product can suppress gelatinization as shown on the right.

Temperature	70℃
Polymerization time	3 hours
Composition	Monomer/toluene ＝ 50/50wt%
Initiator	Azobis-dimethylvaleronitrile

Appearance of homo-polymer

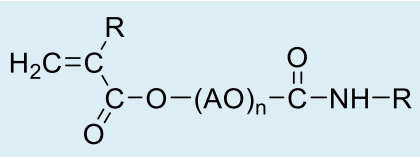
Conventional product ⇨ Gelatinization

Developed product ⇨ Liquidization

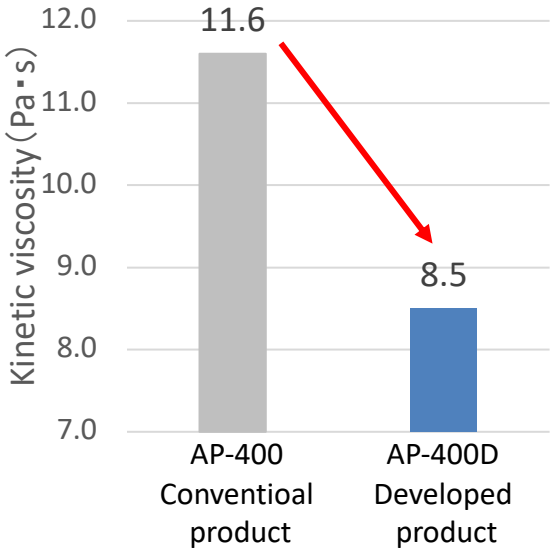
Viscosity reduction effect

The terminal hydroxyl group was used for a urethane formation reaction, and the viscosity was compared. Low-viscosity compounds were obtained, and the polymerization group and PAG chain can be introduced.

Temperature	60℃
Reaction time	4 hours



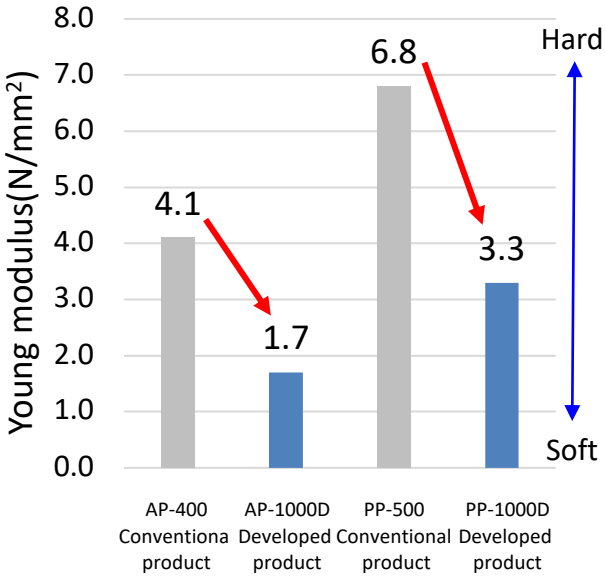
Urethane acrylate with PAG chain



Resin modification effect

Photocured resins were made under the following conditions, and The tensile test was conducted. Young modulus was lowered when the developed products with high molecular weight were used, that indicates BLEMMER®AP-D, PP-D show high performance in physical modification.

Conditions	500～600mJ/cm²
Composition	Commercially available UV-cured urethane acrylate (UA) UA/BLEMMER® AP-1000D=1/3 UA/BLEMMER® PP-1000D=1/1
Initiator	Dimethoxy-phenylacetophenone



Examples of applications

- Photocured resins
- Adhesives

The details included herein are provided for information purposes only based on the available resources, information and data at the time, but are no guarantee of the included details.

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