

JIS

JAPANESE INDUSTRIAL STANDARD

Glossary of Terms Used
in Plastic Industry

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Glossary of Terms Used in
Plastic Industry

K 6900-1977
(Reaffirmed: 1980)

1. Scope

This Japanese Industrial Standard specifies the terms and their pronunciations and definitions used in the plastic industry.

Remark: In this standard, the units and numerical values shown in { } are in accordance with the International System of Units (SI), and are appended for reference only.

Reference Standard:

JIS Z 8203-SI Units and Recommendations for the Use of their Multiples
and of Certain Other Units

No.	Term (Japanese)	Definition	English equivalent
A 1	AISOTAKUCHIKKUPORIMA	A polymer of stereo regular configuration whose main chain is composed of head-to-tail linkage over the long molecular chain and furthermore the side chains are on only one side of the main chain. That is, a polymer of a configuration in which the asymmetric carbon atoms in the main chain are exclusively in the "z" arrangement of the stereochemistry alone, or exclusively in the "l" arrangement and having easily crystallizing property (see Attached Fig. 1).	isotactic polymer
2	AKUTORAKKINGU	The formation of conducting path across the surface of an insulating material by arc discharge.	arc tracking
3	AKURIRONITORIRUSUCHIREN JUSHI	A copolymer based on acrylonitrile, styrene and its derivatives, also called AS resin and abbreviated to AS.	Styrene-acrylonitrile resin, AS resin
4	AKURIRONITORIRUBUTAJIEN- SUCHIRENJUSHI	A synthetic resin consisting of a continuous phase of copolymer based on acrylonitrile, styrene and their derivatives and a dispersed phase of rubber or nitrile rubber containing butadiene, processed by graft polymerization, blending or both. It is also called ABS resin and abbreviated to ABS.	acrylonitrile-butadien- styrene resin, ABS resin

No.	Term (Japanese)	Definition	English equivalent
A 5	ASEKAKI	The migration of liquid constituents, such as plasticizer and softener, to the surface of a plastic product like minute water drops. It is also called HAKKAN.	sweat out
6	ATAKUTIKKUPORIMĀ	A polymer having stereo irregular configuration (see Attached Fig. 1).	atactic polymer
7	ASSHUKUSEIKEI	A process of moulding a plastic product, in which the moulding material is filled in a mould cavity and formed by the application of pressure and heat. A method generally used in moulding thermosetting resins.	compression mo(u)lding
8	ASSHUKUTSUYOSA	The maximum compressive stress when a material is broken by a compressive load. The compressive strength is calculated by dividing the maximum load by the cross-sectional area and expressed in $\text{kgf/mm}^2\{\text{N/mm}^2\}$.	compressive strength
9	ASSHUKUHI	In the screw of an injection moulding machine or extruder, the ratio (V_2/V_1) of the spacial volume formed by one screw groove in the feed section (V_2) to the spacial volume formed by one screw groove in the metering section (V_1). The magnitude of compression ratio is a factor of screw-designing directly affecting the plasticizing capacity and the degree of uniformity of plasticization of a plastic.	compression ratio

No.	Term (Japanese)	Definition	English equivalent
A 10	ATOSEIKEI	The method of secondarily forming thermosetting resin laminates under heat and pressure. It is also called POSUTOHOMINGU.	postforming
11	ANIRINJUSHI	A resin made by the polycondensation of aniline with formaldehyde and usually used in combination with other resins.	aniline resin
12	ANIRINGU	Heating to and holding at a suitable temperature and then cooling at a suitable rate for relieving the strain caused in the moulded article by heat or mechanical stress.	annealing
13	ABATA	A imperfection in appearance by a bubble remaining on the surface of a plastic product in the crater-like form.	crater, pit
14	AFUTAKYUA	The progress of curing of articles having been moulded from thermosetting resin by no further treatment or by heating.	after cure, post cure
15	ABURAHENSEIJUSHI	A synthetic resin chiefly used for paints, made by denaturing with drying oil, semi-drying oil or nondrying oil. For example, there are the oil-denatured phenolic resin and oil-denatured alkyd resin.	oil-modified resin

No.	Term (Japanese)	Definition	English equivalent
A 16	AMINOJUSHI	Generally a resin made by condensation of a compound containing amino groups, such as urea or melamine, with formaldehyde. For example, there are the urea resin, melamine resin and guanamine resin.	amino resin
17	ARIRUJUSHI	A polymer based on monomer containing the allyl group. The diallyl phthalate resin (abbreviated to PDAP) is an example.	allyl resin
18	ARUKIDOJUSHI	A resin made by condensing a polybasic acid and polyhydric alcohol. In general usage it excludes the polyethylene terephthalate and unsaturated polyester resin. That made from the phthalic acid as a polybasic acid and the glycerol as a polyhydric alcohol is called a phthalic acid resin. In many cases it is denatured with a fatty acid or fats and oils, such as a drying oil and semidrying oil.	alkyd resin
19	AWA	A defect appearing in the form of cavity in a plastic product. It appears by the inclusion of air, water, gas, etc. in the plastic product. It is an apparent defect in a transparent or translucent plastic product.	bubble
20	AWASEANA	A hole in one part of a mould to accept the dowel for locating the divided parts.	dowel hole, guide hole

No.	Term (Japanese)	Definition	English equivalent
A 21	AWASESUJI	A raised line appearing on the surface of moulding and formed at the junction of mould parts.	flash line
22	AWASEPIN	A taper pin fixed in the male or female mould to increase the accuracy of relative position between the male and female moulds that is maintained by the guide pins in the mould.	
23	ANGYURAPIN	A guide pin fixed in a mould at a specified inclination to the direction of travel of the mould to move the slide core as the mould opens or closes. An angular cam is used when it is required to change the angle midway. It is also called a finger pin (see Attached Fig. 2).	angular pin, finger pin
24	ANZENTOBIRA	A door-lime safety device equipped to the opening and closing gear of the mould in a compression moulding machine, transfer moulding machine, injection moulding machine, blow moulding machine, etc. It is perfectly interlocked with the clamping gear so that the clamping does not operate while the door is open.	safety door

No.	Term (Japanese)	Definition	English equivalent
A 25	ANDAKATTO	A part of a moulding that necessitates deformation of the moulding or the use of a special mould construction for ejection. Also a depression in a part of a moulding. Generally an undercut part is moulded by fitting a slide core, etc. in the mould, which is removed before ejection of the moulding.	undercut
26	ANTEIZAI	(1) A substance used in the formation of some plastics to assists in maintaining the properties of the material during moulding or service life. (2) A polymerization inhibitor added to improve the storage stability of a moulding material.	stabilizer
I 27	IKEIZAI	An extruded product of unfair cross-sectional shape. The shape is semicircular, L-shape, T-shape, U-shape, or else. It is also called a section shape.	profile
28	IKŌ	The diffusion and penetration of a plasticizer, etc. from a plastic to other contacting materials.	migration

No.	Term (Japanese)	Definition	English equivalent
I 29	ICHIJIKASOZAI	A plasticizer that can be used alone, having good compatibility with resins (see No. 76: plasticizer).	primary plasticizer
30	IKKODORIKANAGATA	A mould having one cavity.	single impression mo(u)ld, single cavity mo(u)ld
31	IROKENRŌDO	Said of the grade of discolouration and fading of the colour of a plastic product, judged by comparison with the discolouration and fading of the standard blue scale, and expressed by Grade 1 (weakest) to Grade 8 (excellent). The colour fastness test is conducted by the outdoor-exposure test or artificial colour-fading test. It is also expressed by the colour difference and comparison with the grey scale.	colo(u)r fastness
32	INSĀTO	A part consisting of metal or other material which is preliminary set in a mould to be moulded into the moulding after the completion of the moulding operation, or that operation.	insert
33	INSĀTOPIN	A pin used to locate and maintain an insert in position during moulding.	insert pin

No.	Term (Japanese)	Definition	English equivalent
I 34	INJEKUSHONBURŌSEIKEI	A blow moulding process of thermoplastic resin in which a bottomed parison is formed by injection moulding, instantly transferred in a second mould for blowing and blown to a hollow moulding.	injection blow mo(u)lding
35	INCHINGU	(1) A moulding technique of slowing down the clamping speed of a mould just before it is closed completely. (2) The process of locating a body by step-by-step movement.	inching
36	INPARUSUSHIRU	An external heat sealing process using a large quantity of instantaneous heat produced by a strong current flown through a heating element. This process is particularly effective for bonding thin thermoplastic films, because it allows quick heating and cooling.	impulse heat sealing, impact heat sealing
37	INFURĒSHONHŌ	A continuous film manufacturing process in which the material is extruded by an extruder through a die into a tubular form and is inflated by air pressure to a required size, the upper end being pinched between pinch rolls.	tubular film process

No.	Term (Japanese)	Definition	English equivalent
U 38	UERUDOMĀKU	A linear mark on a moulded plastic, formed in the moulding process by the incomplete fusion of two or more streams of plastic flowing together. It is also called a weld line and knit line.	weld mark
39	UKEBAN	In a mould, a plate that, being fixed at the back (or the bottom) of the moving template, supports the male or female mould and other piercing guide pins, bushes, etc. (see Attached Fig. 3).	backing plate, supporting plate, support plate
40	UCHINUKIKAKŌSĒI	The shear-workability of a material presented by the results of the judgement on the condition of the surface and worked surface when the material is punched with a punch and die of prescribed forms.	punching quality
E 41	EPOKISHIJUSHI	A resin containing epoxy groups, which is hardened by amines, acids, etc. There are two classes of this resin: One is produced by the reaction of an epoxy compound with a bisphenol or polyhydric alcohol, and the other is produced by the epoxidation of an unsaturated group with a peracid. It is abbreviated to EP.	epoxy resin
42	ERASUTOMA	A solid material based on a macromolecular material having elastic properties akin to those of rubber at the ordinary temperature.	elastomer

No.	Term (Japanese)	Definition	English equivalent
E 43	L/D	The ratio of the effective length (L) of the component screw of an injection moulding machine or extruder to its outside diameter (D). The larger is the value the larger is the heat transfer area, therefore the superior kneading effect.	L/D ratio, length/diameter ratio
44	ENSŌHOKŌ	The direction parallel to the layers of a laminate. For a plate and material having different properties according to direction, such as a laminated sheet, it is necessary to specify the direction along which a property is to be measured (see No. 94: flat-wise and Attached Fig. 4).	edgewise
45	ENBOSUSHITO	A sheet with a textured pattern on one or both sides, produced by pressing the sheet against a plate or roll on which the pattern is engraved.	embossed sheet
0 46	ŌHEN	Discolouration which sometimes occurs on plastics by the effect of light, heat, chemicals, atmospheric oxygen, etc.	yellowing
47	ŌRYOKU	The internal force in a body that has the tendency of giving or going to give a deformation to the body, being expressed generally in kgf/mm^2 { N/mm^2 }.	stress

No.	Term (Japanese)	Definition	English equivalent
0 48	ORYOKUKIRETSU	An external or internal crack in a material caused by the stress less than its breaking strength.	stress cracking
49	ORYOKU-HIZUMISENZU	A diagram showing the relation of stress to strain in a material test, in which the values of stress are plotted as ordinate and those of strain as abscissa (see Attached Fig. 5).	stress-strain diagram
50	OSHDASHI	A process of moulding thermoplastic resin whereby the material is heated and pressurized into fluid state in an extruder and is forced through a die continuously to be moulded. The products obtained by this process are pipes, rods, various extruded section, covered wires, sheets, films, fibres, etc.	extrusion
51	OSHDASHIATURYOKU	The pressure produced at the tip of the screw when an extruder is extruding molten material.	extrusion pressure
52	OSHDASHIKI	A machine used in performing extrusion moulding, also called a screw extruder. It is fundamentally classified into the two types: The single screw extruder which has one screw in the barrel and the multi screw extruder which has two or more screws in the barrel. The latter having two screws is called a twin screw extruder.	extruder

No.	Term (Japanese)	Definition	English equivalent
0 53	OSHIDASHISOKUDO	The speed at which the material is extruded through the extrusion die. It is expressed by the extrusion output (kg/h) or by the extrusion length per unit time (m/min) for simplicity.	extrusion rate
54	OSHIDASHIDAI	A die fitted at the outlet tip of an extruder continuously to produce the extrusion products of a required form.	extrusion die, extruding die
55	OSHIDASHIHEDDO	The part between the outlet and the screw tip of an extruder. Generally a screen pack, breaker plate, etc. are installed in this part.	extrusion head
56	OSHIDASHIRYŌ	The quantity of material extruded from an extruder in a unit time, being expressed in kg/h.	extruder output,
57	ŌBĀREIAPPU	In reinforcing a fibre reinforced plastic product, and the like, the process of laying a reinforcing material on the part of the product to be reinforced and enveloping it with the last one or two layers of glass fibre to complete reinforcement.	over lay up

No.	Term (Japanese)	Definition	English equivalent
0 58	OPUNASENBURITAIMU	The time during which the surfaces coated with a solvent type adhesive are exposed to the air before being brought into glueing with each other to make excess solvent evaporate.	open assembly time in glueing
59	ORIKEI	In the inflation method, the width of tube which is wound flat.	lay flat width
60	ORIGOMĀ	A polymer of low polymerization degree, generally from a dimer to a polymer of at most a few thousand molecular weight.	oligomer
KA 61	KALJŪGŌ	The reverse reaction to polymerization, in which the molecular chain in a polymer is cut by the effect of heat, light, catalyzer, depolymerizing agent, etc., and the polymer returns to a polymer of low polymerization degree or monomer. The transition of polymethyl methacrylate or polytetrafluoroethylene to a monomer by heat and that of polycaproamide to caprolactam by an acid or alkali are its examples.	depolymerization

No.	Term (Japanese)	Definition	English equivalent
KA 62	KAITENSEIKEI	A process of getting hollow products from pasty or powdery material, in which the material is enclosed in a hollow split mould and the mould is heated while being rotated around two shafts crossing at right angles with each other, then the material is distributed inside the mould walls and fused to complete moulding.	rotational mo(u)lding
63	GAIDOPIN	The pins used to fix the relative position between the male and female moulds, being studded in parallel with the direction of travel of the mould parts (see Attached Fig. 3).	guide pin, leader pin
64	GAIDOPIN BUSSHU	The bushes to be put into the counter part of the mould as the reception holes for the guide pins for fixing the relative position between the mould parts (see Attached Fig. 3).	guide pin bushing, leader pin bushing
65	KAIFUKU	The property of stressed material to return to original state when the external force that caused the distortion is removed.	recovery
66	GAIBUKASOKA	Plasticization of a resin by using a plasticizer. Generally the term plasticization means external plasticization (see No. 73: plasticization).	external plasticization

No.	Term (Japanese)	Definition	English equivalent
KA 67	KAENSHORI	The process of oxidizing plastic surfaces with a strong oxidizing flame. It is used to improve the printing and adhesive characteristics, etc. of polyolefin, in particular.	flame treatment
68	KASABARIKEISU	The quotient of the density of the material in its moulded form divided by its apparent density in the unmoulded form.	bulk factor
69	KASAMITSUDO	The apparent density of a material.	bulk density, apparent density, powder density
70	KAJŌJŪTEN	In injection moulding, the excessive charging of moulding material into the cavity due to excessive injection pressure. It makes the mass of moulding greater and so the internal strain.	over-packing
71	GASUNUKI	The operation of opening a mould for a very short period of time at an early stage in the process of moulding to allow the escape of moisture and air contained in the moulding material and the water and other volatile matter which arise during curing from the moulding material. The omission of this process in manufacturing mouldings of big size or thick articles can increase their tendency to produce blisters on their surfaces when they are taken out of the mould. It is also called dwelling.	breathing

No.	Term (Japanese)	Definition	English equivalent
KA 72	KAZEIN	A protein material obtained from milk or soya beans. Usually its mouldings are used after being treated with formaldehyde.	casein
73	KASOKA	Plasticization of synthetic resin, etc. Thermoplastic resins are plasticized by heating, but in general they are added with a plasticizer to lower their glass transition points, thus to make them flexible at ordinary temperature or to improve their workability. It is classified into external plasticization and internal plasticization.	plasticization
74	KASOKAKÖRITSU	The efficiency of a plasticizer in plasticizing a resin. In general, it is expressed by the ratio of the mass of the plasticizer necessary to get the same value as the softness of the mixture of 100 parts (mass) of polyvinyl chloride and 50 parts (mass) of dioctyle phthalate, etc. taken as the standard. A plasticizer with good efficiency can perform the required plasticization by a relatively small quantity.	plasticizing efficiency
75	KASOKANÖRYOKU	A method of expressing the capacity of a moulding machine, representing the maximum mass of material which the machine can plasticize in a unit time.	plasticizing capacity

No.	Term (Japanese)	Definition	English equivalent
KA 76	KASOZAI	A liquid or solid substance incorporated in a plastic to give its products flexibility as well as to increase its plasticity. It is classified into primary plasticizer and secondary plasticizer. Particularly a plasticizer of macro molecule is called a polymeric plasticizer.	plasticizer
77	KASOSEI	Concerning the deformation by the stress not less than the elastic limit, the tendency of a material to remain deformed after removal of the stress. It is also called SOSEI.	plasticity
78	KATAKIZU	An apparent defect on the surface of a moulding transferred from the blemish on the mould.	mo(u)ld mark
79	KATASA	A value expressing the hardness of a material, generally measured by the resistance of the material specimen against the indentation or scratching by other harder body than the specimen.	hardness
80	KATAJIMEJIKAN	In moulding, the time from the start to complete finish of closing a mould.	closing time
81	KATAJIMERYOKU	The force which is applied to a mould to keep it closed against the pressure of molten material filled in it.	(mo(u)ld) clamping force, (mo(u)ld) locking force

No.	Term (Japanese)	Definition	English equivalent
KA 82	KATANAIATSURYOKU	During moulding process, the pressure produced inside the mould when the material is filled in it.	internal die pressure
83	KATABIRAKIATSURYOKU	The force to open the mould of moulding machine for taking out the moulding.	mo(u)ld opening force
84	KATAZAI	In heat-moulding a moulding material, a chemical which has the action of increasing the fluidity of the material or improving the separation of the moulding from the mould. A fatty acid or its salt is used for that purpose. One that has low compatibility with resins and acts as the lubricating layer between the surface of processing machine and a resin is called an external lubricant, and one that has good compatibility with resins and therefore lowers the meltviscosity and improves fluidity is called an internal lubricant.	lubricant
85	KATTOREYĀ	A state of the cut-finished surface of a laminate showing a crosswise section finished smooth so far as the condition of layers are revealed.	cut-layers
86	KADOBAN	In the mould-clamping gear of a press or moulding machine, the die plate on the opening and closing action side.	movable platen

No.	Term (Japanese)	Definition	English equivalent
KA 87	KANAGATA	A metal mould for moulding a moulding material into a required form. There are several types according to the shape or function, such as those called the flash mould, positive mould and split mould.	mo(u)ld, die
88	KANAGATAYŌITAZAI	An assembly of functional parts fundamental to the mould for injection moulding machine. It can be used as a mould when the cavity and core are engraved or inserted. It is usually called a die set.	mo(u)ld base, die base
89	KANETSUSHIRINDĀ	A part of an injection moulding machine or extruder body, cylindrical in form, where heating, fusion and transfer of the material are performed.	heating cylinder

No.	Term (Japanese)	Definition	English equivalent
KA 90	KARENDĀ	A rolling mill consisting of a number of heating rolls. It is classified by the arrangement of rolls into several types: The series type, inclined type, L-type, inverted L-type, Z-type, inclined Z-type, etc. A set of rolls composing the principal machine part of a calender is called a bowl of a calender, and the line of contact between two parallel rolls in contact with each other or that between the one of the rolls and the body passing through them is called nip. The expanded portion of a calender roll at the centre to compensate its deflection due to the great force exerted on it during rolling and heat expansion is called crown.	calender
91	KARENDĀKAKŌ	(1) The method of forming films, sheets, etc. by using a calender. (2) The working method of coating the surface of cloth, paper, etc. with a plastic by using a calender.	calendering
92	KANKYŌORYOKUKIRETSU	The stress cracking accelerated by the environment, also called stress cracking, particularly called solvent cracking when caused by a solvent.	environmental stress cracking
93	GANSHIN	A process of impregnating the pores in the texture or structure of fabric, paper, wood, coil wire, etc. with a resin.	impregnation

No.	Term (Japanese)	Definition	English equivalent
KA 94	KANSŌHOKŌ	The direction perpendicular to the surface of a plate (see No. 44: edgewise and Attached Fig. 4).	flatwise
95	KANNŌSEI	In the high-polymer forming reaction, the number of functional groups upon which each of the material compounds can react to make high-polymerization. For example, carboxylic acid reacts upon hydroxyl group to produce ester. Such a group (atomic group) is called a functional group, and a compound having two functional groups is said to be bifunctional and one having three functional groups trifunctional. A double bond compound is bifunctional.	functionability
KI 96	KIZAI	Reinforcing materials for laminates, such as paper and cloth.	base material
97	KISHIRENJUSEI	The general term for the resins based on the polymer obtained by the condensation of methaxylene and formaldehyde. It is also called xylene-formaldehyde resin.	xylene resin
98	KIHATSUGENRYŌ	The loss in mass by vaporization of the substances contained in a product or component materials.	volatile loss

No.	Term (Japanese)	Definition	English equivalent
KI 99	KIHŌ	A unit of cell structure constituting a cellular plastic. The plastic walls constituting the cells are called cell walls. A cell completely enclosed by cell walls is called a closed cell, and a cellular plastic mostly constituted of closed cells is called a closed cell cellular plastic. A cell which is not perfectly enclosed and is open to adjacent cells is called an open cell, and a cellular plastic mostly constituted of open cells is called an open cell cellular plastic.	cell
100	KYABITĪ	(1) In a mould, the space between the male and female parts where a moulding is formed. (2) The engraved surface of a female part.	cavity
101	KYUA	The process of converting a thermosetting resin into a more stable condition by effecting cross linking by applying heat, catalyst, light, radiation, etc. When the moulding temperature is too high or the moulding time is too long, deterioration of moulded product can occur. This state is called over cure and the state of insufficient cure is called under cure.	cure

No.	Term (Japanese)	Definition	English equivalent
KI 102	KYUAJIKAN	The period of time from the start of curing by the heating of or addition of catalyst to a thermosetting resin until the required hardness is reached.	curing time
103	KYŪSUIRITSU	A scale for evaluating the water absorbing property of a material, expressed by the increase in mass after immersion in distilled water at a specific temperature for a specific time as a percentage of its original mass or simply by the increase in mass for the specified test specimen.	water absorption
104	KYŌKAZAI	A fibrous material, or that worked, used to reinforce the mechanical strength of plastics. It is also called HOKYŌZAI.	reinforcement
105	KYŌKAPURASUCHIKKU	A plastic added with reinforcement, being a kind of composite material. Various kinds of materials with excellent mechanical strength are obtained according to the kind and quantity of reinforcement. It is abbreviated to FRP. The glass fibre is widely used as the reinforcement, and, for distinction, where the material is based on a thermosetting plastic, it is called GRP (abbreviation for glassfibre reinforced plastic), and where based on a thermoplastic it is called GRTP (abbreviation for glassfibre reinforced thermo-plastic).	fiber reinforced plastic

No.	Term (Japanese)	Definition	English equivalent
KI 106	GYŌKO	Agglomeration of colloidal particles precipitated in a colloidal solution by the addition of an electrolyte or by heating or cooling.	coagulation
107	KYŌJŪGŌTAI	The process of mixing and polymerizing two or more monomers is called copolymerization, and the polymer formed by this reaction is called a copolymer. In a copolymer, two or more kinds of monomers are irregularly or regularly arranged alternately. The composition of the polymer differs according to the variation of mixing ratio of monomers and difference in ratio of polymerization rate. Therefore many kinds of copolymers also different in properties can be formed. A copolymer formed by mixing two or more kinds of multifunctional compounds in the same family and condensing them with other multifunctional compounds is called a co-condensation polymer.	copolymer
108	KIRETSU	A crack produced in a product by the effect of internal stress, external shock or environment. It is also called cracking.	crack
KU 109	GUANAMINJUSHI	An amino resin, a general name for the resins based on the polymers formed by the condensation of a guanamine homologue, such as benzoguanamine and acetguanamine, with formaldehyde, or the like.	guanamine resin

No.	Term (Japanese)	Definition	English equivalent
KU 110	KUDORITSU	The rate of presence of cavity in a material especially used with glass-fibre-reinforced plastics and expressed as the volume percentage.	void content
111	KUMARONJUSHI	A resin obtained by the polymerization of coumarone, its homologue or derivative. A copolymer of coumarone and indene is called coumarone-indene resin.	c(o)umarone resin
112	KUMIAWASEKANAGATA	A mould having a set of cavities to form by itself alone a set of parts constituting a complete product, for example a mould having cavities for both the cover and the body.	family mo(u)ld
113	KUMORI	(1) A cloudy appearance within or on the surface of a transparent plastic. (2) The rate of diffusion of incident light in a transparent plastic, expressed by the ratio of the quantity of diffused transmission light to the quantity of total transmission light as a percentage.	haze
114	GURAFUTOJŪGŌTAI	A copolymer formed as follows: When a homopolymer is added with a monomer of other species and is polymerized, a part of the homopolymer branches and polymerizes with monomer of other species. Such a copolymer is called a graft polymer.	graft polymer

No.	Term (Japanese)	Definition	English equivalent
KU 115	GURANYURĒTĀ	A machine for granulating materials or one for breaking materials. It is also called SEIRYŪKI, ZŌRYŪKI or FUNSAIKI.	granulator
116	KURĪPU	Time-dependent strain resulting from stress in a material. The creep occurring at an early stage at a changing rate is called primary creep, and the creep occurring at a constant rate is called secondary creep. The stress that will cause fracture in a specified time (1000 h, for example) is called creep rupture strength, and the stress that will cause a specified creep (0.1 % strain in 10000 h, for example) is called creep limit. The decrease in strain following removal of load in a creep test is called creep recovery. This is the residue of the strain just before removal of the load subtracted by the strain after an arbitrary lapse of time following removal of the load having been applied on the test specimen (see Attached Fig. 6).	creep
117	GURŪRAIN	The layer of adhesive which bonds two adherends.	glue line
118	KURŌZUDOASENBURĪTAIMU	The time between the assembly of adhesive-coated surfaces and the application of pressure, in a plywood-manufacturing process.	closed assembly time in glueing

No.	Term (Japanese)	Definition	English equivalent
KU 119	KUROSUHEDDO	(1) An extruder head to extrude plastic material at right angles with the axis of the extruder cylinder. A type of die construction in forming pipes by extrusion or covering electric wire. When the angle of extrusion is a suitable angle other than a right angle, the head is also called an angle head or an angular head. (2) In a material testing machine, a universal testing machine, in particular, used for tensile, compression or bending test, the horizontal block equipped at right angles with the direction of travel. The term generally comprises the moving block to which a grip, presser wedge, etc. are attached.	crosshead
KE 120	KEISOJUSHI	The general term for polymers in which the main polymer chain consists of silicon-oxygen bonds. It is also called silicone or SI for short.	silicone resin
121	KESHÖBAN	A sheet used for decorative purposes. Generally composed of a sheet of thermoplastic resin or thermosetting resin and a base board. Especially the colour and surface pattern are the essential factors to it, and it is used for various furniture, building interior decoration, etc.	decorative laminated sheet

No.	Term (Japanese)	Definition	English equivalent
KE 122	KEZURIKIZU	Parallel scratches distributed over a considerable area of a plastic sheet or film, being the defects generally produced during a slicing operation.	sheeter lines
123	KETSUGŌZAI	A resin used in a plastic product to bond the filler or reinforcing materials, such as the phenol resin in the phenol-resin laminated sheet.	binder
124	GETO	The gate through which molten resin is injected into a mould cavity. There are various types according to its shape and function, such as direct gate, fan gate, center gate, flash gate, pin point gate, submarine gate, tab gate, side gate, shear gate, disk gate, tunnel gate, diaphragm gate, film gate, restricted gate, ring gate and multi gate (see Attached Fig. 7).	gate

No.	Term (Japanese)	Definition	English equivalent
KE 125	GERU	(1) Among the colloidal particles dispersed in a colloidal solution, that is a sol, the attraction force and its effect increases as the density becomes higher. If the density is raised further or the solution is cooled or brought to cause a chemical change, the particles join together to form a three-dimensional net-like or honeycomblke construction, and the solution becomes jellylike. A solution in this condition is called a gel. (2) A thermosetting resin becomes jellylike in the course of curing. This is called a gel. (3) In the case of a thermoplastic resin, when its solution or latex is coagulated by the addition of a precipitant, or, reversly, when the resin is dissolved, the solution often becomes jellylike. This is called a gel.	gel
126	KENDAKUEKI	A system in which solid particles are dispersed in a liquid in corpuscles as fine as visible by the naked eye or through a microscope. However, in a broad sense, the term sometimes implies a suspensoid in which solid particles are dispersed in colloidal particles. For a high polymer, it implies in most cases a dispersion of a polymer obtained by suspension polymerization.	suspension

No.	Term (Japanese)	Definition	English equivalent
KE 127	GENBAHAPPO	In foaming mainly a thermosetting plastic, a method of foaming by spraying on an object or injecting in a cavity the base material, hardener, foaming agent, etc. having been mixed in a mixer.	foaming in place
KO 128	KOA	(1) A part of mould forming the required inside surface of a moulding, which forms the engraved surface or undercut part of the male mould (see Attached Fig. 3). (2) The base board in a decorative plywood panel or the core material in a composite material of sandwich construction.	core
129	KOAPIN	A pin set in a cavity or core to produce a hole in a moulding or to decrease the wall thickness of the thick part of a moulding, also called INUKIPIN. When a threaded hole is required, a Screw Core Pin is set in.	core pin
130	KOINGU	A method of forming polytetrafluoroethylene, used to form a moulding which requires accuracy of dimensions. In the method, the primary moulding is gelled by calcining, packed in a mould for secondary forming, and nearly cooled to ordinary temperature as pressed in the mould. In the coining, the method of heating and pressing the mould for the secondary forming is called Hot Coining.	coining

No.	Term (Japanese)	Definition	English equivalent
KE 131	KŌKA	The change of a thermosetting resin in physical properties by curing.	hardening
132	KŌKAZAI	A chemical that reacts with a thermosetting resin to harden (to transform a molecule into three-dimensional structure) it, or a catalyst that promote the hardening reaction of a thermosetting resin.	hardener, curing agent
133	KŌSITSUPURASUCHIKKUHŌMU	A cellular plastic whose compressive hardness is extremely great and when once deformed, hardly recover its original form even when the stress is removed. It includes the cellular polystyrene and rigid cellular polyurethane.	rigid cellular plastic
134	GŌSELJUSHI	A polymeric substance produced by synthesis, being the main material of plastics, coating materials, adhesives, etc. It is classified mainly into Thermosetting resin and Thermo-plastic resin. In contrast with the above, a plastic material obtained from plants or animals is called a Natural Resin.	synthetic resin

No.	Term (Japanese)	Definition	English equivalent
KO 135	GŌHAN	A board consisting of thin layers of wood Veneer glued together with an adhesive so that the grain of each layer is at right angles with the grain of its neighbours, and set by heating and pressing.	plywood
136	KŌFUKUTEN	The stress at which an increase in strain occurs without an increase in stress, corresponding to the point where the gradient of the curve in a stress-strain diagram becomes null (see No. 260: offset yield stress).	yield point
137	KŌBUNSHI	A compound of high molecular weight (10 thousand or over, for example) in which the effect of molecular weight on the properties is relatively little. It is classified into the Natural High Polymer and Synthetic High Polymer.	high polymer, macro molecule
138	KŌBUNSHIKASOZAI	A general plasticizer has the defects of causing diffusion, elution or migration, because its molecular weight is a few hundred or under. For example, the high polymer plastic plasticizer, such as polyester and nitrile rubber, that is added to polyvinyl chloride can make up for the above-mentioned defects. However, since its plasticizing efficiency is generally not good, it is usually used in combination with a primary plasticizer (see No. 76: plasticizer).	polymeric plasticizer

No.	Term (Japanese)	Definition	English equivalent
KO 139	KOKA	The solidification by cooling a thermoplastic resin in softened or molten state.	solidification
140	KOTEIBAN	One of the die plates that does not make opening and closing motion in a mould-clamping system. That is, in an injection molding machine, the die plate to which the stationary mould is fixed, and in a press, generally the die plate fixed to the main head of the press.	fixed plate, stationary platen
141	KŌCHINGU	The process of coating a metal, fabric, paper, etc. with a plastic film to protect it from the air, water, chemicals, etc. or to give electric insulation, decoration, etc. by the process of calendering, extrusion, Dipping, Spraying, Spreading, Fluidized bed coating, Electro-coating, or else.	coating
142	KŌRUDOSURAGU	In injection moulding, the part of the molten material initially injected into the mould that has rapidly cooled during passing the nozzle or sprue. Further, the space provided at the bottom of the sprue or the end of the runner is called a Well (popularly, Pouring basin or Cold-slug well).	cold slug
143	KORONASHORI	The process of applying corona discharge on the surface of a product to improve its printability and adhesive property.	corona treatment

No.	Term (Japanese)	Definition	English equivalent
KO 144	KONPAUNDO	The material prepared to be put as it is to moulding by admixing a synthetic resin with various formulation ingredients, such as plasticizers, fillers, colorants, stabilizers, reinforcement, etc. as necessary.	compound
SA 145	SAIJINGU	The process of cooling an extruded article while controlling its shape and dimensions. Particularly for pipes and the like the diameter is required to be controlled accurately. For this purpose, there are the two systems of outside diameter controlling and inside diameter controlling, and the cooling sleeve system or sizing plate system is used for the former and the sizing mandrel system or cooling mandrel system for the latter.	sizing system
146	SAIDO	One of the three psychological attributes of colour, being the scale for expressing visibility.	chroma
147	ZAIRYŌGIRE	In extruding, the interruption of smooth supply of material by material bridging in the hopper or shortage of material.	starving

No.	Term (Japanese)	Definition	English equivalent
SA 148	SASAEORYOKU	The stress produced on the bearing surface when a plate is jointed with a pin, bolt, rivet, etc. and pulled in a direction at right angles with the axis of the pin, etc. It is expressed by the quotient of the load divided by the product of the diameter of the hole and the thickness of the plate in kgf/mm^2 { N/mm^2 }.	bearing stress
149	SANKA	The value representing the free acid content in a resin, plasticizer, solvent, or else. It is expressed by the number of milligrams of potassium hydroxide required to neutralize the free acid contained in 1 g of the test specimen.	acid value
150	SANKABOSHIZAI	A chemical having the power of preventing a high polymer from deterioration caused by oxidation.	antioxidant
151	SANMAIGUMIKANAGATA	A mould used in injection moulding, having a configuration such that, when it is opened, it separates into three plates, and there are formed a sprue runner between the fixed plate and the intermediate one, and a cavity for the moulding between the intermediate plate and the moving plate. In the mould, the position of the gate may be located at the centre of the moulding, and the separation of the moulding from the gate can be made automatically by applying a pinpoint gate.	three plates mo(u)ld

No.	Term (Japanese)	Definition	English equivalent
SHI 152	SHIAGE	(1) The process of improving the product value in appearance by removing fins, polishing, etc. (2) Concerning reinforced plastics, it sometimes implies the surface-treatment of glass fibre for strengthening the adhering property between the glass fibre and resins.	finishing
153	SHIKISŌ	One of the three psychological attributes of colour, which is noted by such terms as red, yellow, blue, etc.	hue
154	JIKOHAKKAONDO	The minimum initial temperature at which a plastic is led to ignition, when its temperature is raised at a slow and uniform rate.	self-ignition temperature
155	JISYŌSEI	The property of a plastic, burning on application of a flame and extinguishing by itself on removal of the flame.	self-extinguishing.

No.	Term (Japanese)	Definition	English equivalent
SHI 156	SHĪTO	A plastic product in which the thickness is very small in proportion to length and width. A long product is called a sheeting, and one in definite dimensions or a piece cut from a sheeting is called a sheet. Sheets are usually produced by the process of calendering, extrusion, compression, etc., and called a calendered sheet, extruded sheet, pressed sheet, respectively. Further, the sheet cut thin from a plastic block is called sliced sheet.	sheet, sheeting
157	SHASHUTSUATSURYOKU	In an injection moulding machine, the pressure on the end face of the plunger or screw during injection of material (kgf/cm ² {MPa}).	injection pressure
158	SHASHUTSUUSEIKEI	A process of moulding thermoplastic resins and thermosetting resins, in which the moulding material is heated and melted in the injection cylinder, and the fluidized moulding material is injected under pressure by the injection plunger or screw into a tightly closed mould.	injection mo(u)lding

No.	Term (Japanese)	Definition	English equivalent
SHI 159	SHASHUTSUSEIKEIKI	A machine for injecting a moulding materials, being constituted of a plasticizing system, injection system, mould-clamping system and driving system. It is classified into the plunger type injection moulding machine, plunger preplasticating type injection moulding machine, screw preplasticating type injection moulding machine and in line screw type injection moulding machine.	injection mo(u)lding machine
160	SHASHUTSUSOKUDO	In the injection moulding, the mass of moulding material injected into the cavity in a unit time.	—
161	SHASHUTSURITSU	In an injection moulding machine, the theoretical injection quantity of moulding material per unit time, being expressed by the product of the cross-sectional area of the plunger and its advance speed (cm ³ /s).	injection rate