



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS H 0201 : 1998

Glossary of terms used in the
surface treatment of aluminium

ICS 01.040.25; 25.220.20

Descriptors : terminology, vocabulary, surface treatment, production processes,
aluminium, non-ferrous metals

Reference number : JIS H 0201 : 1998 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS H 0201 : 1987** is replaced with **JIS H 0201 : 1998**.

This revision intended to achieve international conformity on the basis of **ISO 7583 : 1986**, *Anodizing of aluminium and its alloys—Vocabulary* for the purpose of making easy to compare this Standard with International Standards, to prepare Japanese Industrial Standard conforming with International Standards and to propose a draft of International Standard which is based on Japanese Industrial Standard.

Date of Establishment: 1970-10-01

Date of Revision: 1998-11-20

Date of Public Notice in Official Gazette: 1998-11-20

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Non-Ferrous Metals

JIS H 0201 : 1998, First English edition published in 2000-06

Translated and published by: Japanese Standards Association
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Printed in Japan

Glossary of terms used in the surface treatment of aluminium

Introduction This Japanese Industrial Standard is corresponding to the first edition of **ISO 7583**, *Anodizing of aluminium and its alloys—Vocabulary*, published in 1986. The technical contents are equivalent to the corresponding parts (the terms for anodic oxidation treatment), however, the chemical conversion treatment, the related surface treatment (painting, electroplating, porcelain enamelling, thermal spraying) etc. unspecified in the corresponding International Standard has been additionally specified.

1 Scope This Standard specifies the general terms and their definitions used in the anodic oxidation and chemical conversion treatment of aluminium and aluminium alloys.

Remarks : The corresponding International Standard to this Standard shall be shown as follows:

ISO 7583 : 1986 *Anodizing of aluminium and its alloys—Vocabulary*

2 Classification The terms used in the surface treatment of aluminium shall be classified into the following eight groups:

- a) General subjects
- b) Treating agents (materials) and equipment
- c) Pretreatment
- d) Anodic oxidation treatment (dyeing, sealing, effluent treatment)
- e) Chemical conversion treatment
- f) Related surface treatment (painting, electroplating, porcelain enamelling, thermal spraying)
- g) Property and defect
- h) Inspection and test

3 Definitions The terms and definitions shall be as follows:

a) General subjects

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
101	陽極酸化	YÔKYOKU-SANKA	Oxidizing reaction that takes place on the surface of electrodes by the anodic treatment.	anodic oxidation	
102	陽極酸化処理	YÔKYOKU-SANKA-SYORI	General term for the electrochemical oxidizing treatments made at the anodes.	anodizing, anodising	
103	陽極酸化皮膜	YÔKYOKU-SANKA-HIMAKU	Film formed by the anodic oxidation treatments.	anodic oxide coating, anodic oxide film	
104	アルマイト	ARUMAITO	General designation of anodic oxide film or products coated with films. Informative reference : Term derived from the registered mark (ALMITE).	anodic oxide coating	
105	自然酸化	SIZEN-SANKA	Oxidizing reaction that takes place in the air with no artificial acceleration.	natural oxidation	
106	陽極酸化塗装複合皮膜	YÔKYOKU-SANKA-TOSÔ-HUKUGÔ-HIMAKU	A film formed by an anodic oxidation treatment followed by painting to greatly enhance the corrosion resistance. It may be simply called combined coating.	combined coating of anodic oxide and organic films	
107	化成処理	KASEI-SYORI	The treatment forming oxide film on metal surface by the reaction of chemical oxidizing agent.	chemical oxidation, chemical conversion	
108	化成皮膜	KASEI-HIMAKU	A film chemically-formed on the surface in an acid or alkaline solution without recourse to electrolysis.	chemical conversion coating, conversion coating	
109	電解	DENKAI	The electrochemical reaction that takes place at the electrodes by the passage of an electric current through the electrodes immersed in electrolytic solution.	electrolysis	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
110	電解質	DENKAISITU	A substance which dissolves in a solvent such as water and ionizes. Its solution is electrically conductive and when the current is transmitted through, it gives rise to a phenomenon of electrolysis.	electrolyte	
111	電解液	DENKAIEKI	A solution obtained by dissolving an electrolyte in a solvent such as water.	electrolytic solution	
112	電解浴	DENKAIYOKU	The electrolytic solution contained in an electrolysis tank.	electrolytic bath	
113	陽極	YÔKYOKU	The electrode at which negative ions are discharged, positive ions are formed and other oxidizing reactions occur.	anode	
114	陰極	INKYOKU	The electrode at which positive ions are electrochemically reduced and deposited as metals or hydrogen and negative ions are formed.	cathode	
115	補助電極	HOZYO-DENKYOKU	An auxiliary cathode or anode used for the purpose of forming a uniform anodic oxide film.	auxiliary electrode	
116	極間距離	KYOKUKAN-KYORI	The distance between the anode and the cathode.	distance between electrodes, anode-cathode distance	
117	分解電圧	BUNKAI-DEN'ATU	The minimum electrolytic voltage required for the electrolysis of a solution.	decomposition voltage	
118	過電圧	KADEN'ATU	The difference between the theoretical equilibrium potential and the actual electrode potential under actual electrolysis operation.	overvoltage	
119	電解槽電圧	DENKAISÔ-DEN'ATU	The electric voltage between the cathode and the anode in an anodic oxidation treatment bath.	bath voltage	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
120	スローイングパワー	SURÔINGU-PAWÂ	The property to make the film thickness and colour of article to be treated uniformly.	throwing power	
121	電流密度	DENRYÛ-MITUDO	The degree of electric current flowing through a unit area of an electrode.	current density	
122	限界電流密度	GENKAI-DENRYÛ-MITUDO	The upper and lower limits of the current density for forming a normal coating.	critical current density	
123	電流分布	DENRYÛ-BUNPU	Distribution of the electric current passing through the various parts of an electrode.	current distribution	
124	電流効率	DENRYÛ-KÔRITU	The ratio of the electric current used effectively for the intended electrode reaction to the total electric current which is run through the electrode.	current efficiency	
125	陽極電流効率	YÔKYOKU-DENRYÛ-KÔRITU	The specific anode reaction efficiency, in general. In the anodic oxidation, the ratio of quantity of electricity taken part in forming film to the total quantity of electricity used in anodic oxidation.	anode efficiency	
126	皮膜生成率	HIMAKU-SEISEIRITU	The ratio of the amount of oxide formed to the amount of metal consumed.	coating ratio	
127	吸着	KYÛTYAKU	A phenomenon in which a substance in a gas phase or liquid phase contacting with another phase (liquid or solid phase) comes to an equilibrium at the interface keeping a density different from that of the inner portion.	adsorption	
128	活性化処理	KASSEIKA-SYORI	The treatment with the purpose of enhancing the chemical reaction property of a surface.	activation	
129	再活性化処理	SAI-KASSEIKA-SYORI	The acidic treatment method of anodized film to enhance the adsorption property of dye.	reactivation	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
130	凝集	GYÔSYŪ	A phenomenon in which the insoluble fine particles in liquid aggregate to form a group and then precipitate.	aggregation, flocculation, coagulation	
131	脱イオン処理	DATU-ION-SYORI	The treatment to exchange the ions in water to hydrogen ion or hydroxyl ion by ion exchange.	deionization, demineralizing	
132	脱イオン水	DATU-IONSUI	Water obtained by deionization.	deionized water	
133	電気泳動	DENKI-EIDÔ	A phenomenon in which charged particles suspended in a medium migrate due to the effect of electric field.	electrophoresis, cataphoresis	
134	清浄	SEIZYÔ	The clean state on a metal surface without soil such as grease and the like.	clean	
135	洗浄	SENZYÔ	A process of removing grease and soil on surfaces using mild alkaline, acidic solutions, solvents or their vapours. This process is carried out chemically or electrolytically.	cleaning	
136	拡散反射	KAKUSAN-HANSYA	The reflection of incident light beams from a surface of a body to various directions in such a way that no image can be formed.	diffuse reflection	
137	鏡面反射	KYÔMEN-HANSYA	The reflection of incident light beams from a surface of a body in such a way that an image can be formed.	mirror reflection, specular reflection	
138	反射率	HANSYA-RITU	The ratio of reflected to incident light. The ratio is expressed usually in percent (%). The mirror reflectivity is a reflectivity in the mirror reflection. The total reflectivity is a sum of the mirror reflectivity and the diffused reflectivity.	reflectivity, reflectance	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
139	光沢	KÔTAKU	A surface property perceivable by special distribution of reflected light beams. The degree of luster is determined according to the amount of the component of the light beam reflected directly.	gloss, luster	
140	鏡面光沢度	KYÔMEN- KÔTAKUDO	The ratio of the intensity of the mirror reflection light from a surface of a body to that from a reference surface (a glass of 1.567 in index of refraction). The relative-specular glossiness of a surface of 10 % in mirror reflection is about 100.	relative-specular glossiness	
141	色	IRO	The appearance of an object depending on the spectral composition of the incident light, the spectral reflectance or transmittance of the object and the spectral sensibility of an observer.	colour	
142	色差	SIKISA	The quantitative expression of difference in colour.	colour difference	
143	ブルースケール	BURÛ-SUKÊRU	An international scale to measure the light fastness of dyes. This scale shall be the wool cloth dyed by eight types of blue colour dyes with different light fastness.	blue scale	
144	グレースケール	GURÊ-SUKÊRU	An international scale dyed to different grey colour in intensities used to evaluate the change of colour.	grey scale	
145	不動態	HUDÔTAI	The condition which an unstable metal belonging to an electrically humble pole and potential behaves as if it were a noble metal. In this state, the electrode potential shows higher value of noble than normal.	passive state	
146	局部電池	KYOKUBU-DENTI	Short-circuit cells locally formed on the surface of a metallic body.	local cell	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
147	腐食	HUSYOKU	The consumption phenomenon of metals resulting from their reaction to substances in the environment.	corrosion	
148	腐食性物質	HUSHOKUSEI- BUSSITU	Substances which are apt to corrode.	corrosive substance	
149	結露	KETURO	The formation of dew by the liquefaction of water vapor in the air when the moisture-containing air is cooled below its dew point.	dew formation	
150	レイティングナンバ	REITINGU-NANBA	The numerical value expressing the degree of pitting corrosion with the extent of corrosion area rate.	rating number (RN)	
151	有効面	YŪKŌMEN	The surface which is indispensable the quality of surface treatment specified in the use of product.	significant surface	
152	素地	SOZI	The material of basis for film forming.	basis metal, substrate	
153	浴管理	YOKUKANRI	The control necessary for maintaining the electrolytic bath to be normal state.	bath control	
154	排水処理	HAISUI-SHORI	The treatment to purify waste water.	waste water treatment, effluent treatment	
155	渦電流	KADENRYŪ	Non electric conductive film on the metal of non magnetic material. For example, the high-frequency induction current used in the measurement of the anodic oxidized film on aluminium.	eddy current	

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b) Treating agents (materials) and equipments

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
201	研磨材	KENMAZAI	The material used for grinding, wearing, or polishing. Some abrasives are called abrading materials or grinding materials depending upon their uses. Examples are emery, alundum, carborundum and lime.	abrasive	
202	バフ研磨剤	BAHU-KENMAZAI	The polishing mixture used by coating on buff. When an abrasive is used in grease stick form, it is called a solid polishing compound, and when in liquid suspension form in an emulsion, it is called a liquid polishing compound.	buffing compound	
203	界面活性剤	KAIMEN-KASSEIZAI	Additives used to lessen surface tension.	surface active agent, wetting agent, surfactant	
204	ミスト防止剤	MISUTO-BÔSIZAI	An agent used to suppress the formation of mist during surface treatment.	mist suppressant	
205	すて材	SUTEZAI	The auxiliary material which is placed at the electrode of the object to be treated for absorbing too heavy electric current passing through the edge parts in anodizing or electrolysis colouring. It is also referred to as dummy material.	thief, robber	
206	染料	SENRYÔ	Generic term for dyeing agents soluble in a solvent and capable of imparting a colour. Organic and inorganic dye-stuffs are known.	dye, dyestuff	
207	顔料	GANRYÔ	Insoluble solid material and fine powder of colouring material.	pigment	
208	水溶性染料	SUIYÔSEI-SENRYÔ	Dyes to be dissolved in water when used.	water soluble dyestuff, water soluble dye	

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
209	油溶性染料	YUYÓSEI-SENRYÓ	Dyes to be dissolved in a suitable solvent when used.	oil soluble dyestuff, oil soluble dye	
210	食用色素	SYOKUYÓ-SIKISO	The synthetic colouring agent specified by the Food Sanitation Law. This is used for the colouring of aluminium utensils in contact with food.	food colour, food dye	
211	封孔助剤	HŪKŌ-ZYOZAI	Chemical additives to be added to the treatment bath to improve the sealing effect by hydration. Nickel salt, chromate, triethanol amine and the like are used.	sealing additives	
212	ろ過助剤	ROKA-ZYOZAI	Auxiliaries for permeating the filter cloths to improve the efficiency of filtration.	filter aid	
213	プライマ	PURAIMA	Undercoat to be glued to metal base to improve the adherence between the metal base and the finishing paint.	wash primer, etching primer	
214	バスバー	BUSUBÁ	Metal rods which conduct the electric current from the power source to the electrolysis bath.	bus bar	
215	陽極バー	YŌKYOKU-BÁ	The conductive element made of a metal bar to be laid on an anodic treatment bath, which conducts electric current from the bus bar to articles to be treated.	anode bar	
216	キャリアバー	KYARIA-BÁ	The anode bar which also serves as a conveyor of articles.	carrier bar, flight bar	
217	ジグ	ZIGU	An instrument for supporting the pieces to be anodized and passing electricity.	jig, rack	
218	電解枠	DENKAI-WAKU	A sort of jig in the form of a frame.	frame for racking	

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c) Pretreatment

No.	Term (Japanese character)	Reading	Definition	Reference	
				English equivalent	
301	前処理	MAE-SYORI	Treatment made before the main process to attain surface conditioning, ornamental effects and others of the pieces to be treated.	pretreatment	
302	サラン仕上げ	SATEN-SIAGE	The finish having uniformly short, fine, discontinuous texture on the surface.	satin finish	
303	なし(梨)地仕上げ	NASIZI-SIAGE	The non-directional, lusterless finish having a fine unevenness formed by a mechanical or chemical treatment on the surface.	mat (matt) finish	
304	化学なし(梨)地仕上げ	KAGAKU-NASIZI-SIAGE	A method of mat finish by immersing an article in a special solution to roughen its surface.	chemical mat finish	
305	スピン仕上げ	SUPIN-SIAGE	A finish having a large number of concentric polishing patterns.	spin finish, circular finish	
306	ヘアライン仕上げ	HEYA-RAIN-SIAGE	A finish having continuous fine stripe patterns.	hair-line finish	
307	ダイヤひき目仕上げ	DAIYA-HIKIME-SIAGE	A lustrous surface finish obtained by fine-working with a diamond tool attached to a lathe or the like.	diamond-cut finish	
308	光輝仕上げ	KÔKI-SIAGE	The finishing treatment of a metal surface to bright surface by immersing into the treatment solution to produce a bright surface. For the treatment method, electrolysis polishing and chemical polishing are known. As the materials suitable for this polishing method, high purity aluminium, bright aluminium alloys and others are known.	bright finish, bright dipping	