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Glossary of terms used in rust and corrosion preventive technology

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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 the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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In the event of any doubts arising as to the contents,
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Glossary of terms used in rust and corrosion preventive technology

1 Scope This Japanese Industrial Standard specifies the principal terms and their definitions used in the rust and corrosion preventive technology.

In addition, the English equivalent is given for information.

Remarks : The normative references of this Standard shall be as follows:

JIS H 0530 *Measurement methods of polarization resistance of copper alloy tubes for condenser*

JIS K 2246 *Rust preventive oils*

JIS Z 1902 *Petrolatum tapes for corrosion protection*

2 Classification The category of terms shall be as follows:

- (1) General
- (2) Cleaning method
- (3) Material
- (4) Treatment method
- (5) Test

3 Terms The terms shall be as follows:

(1) General

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1001	腐食	HUSYOKU	Such a phenomenon that a metal is corroded chemically or electrochemically, or degraded in its material by the environmental substance which surrounds it.	corrosion
1002	さび	SABI	Generally, compounds consisting mainly of hydroxides or oxides produced on an iron surface. In the broad sense, corrosion products produced on an iron surface. See the item of corrosion product.	rust
1003	耐食性	TAISYOKU-SEI	Ability of a metal to withstand corrosion in a given corrosion system.	corrosion resistance
1004	防食	BÔSYOKU	To prevent a metal from being corroded.	corrosion prevention, corrosion protection
1005	防せい(錆)	BÔSEI	To prevent a metal from rusting.	rust prevention
1006	さび止め	SABI-DOME	The synonym of BÔSEI.	rust prevention
1007	一時防せい	ITIZI-BÔSEI	The rust prevention to be performed during a short period of time such as in process of operation, in storage, in transportation, etc.	temporary rust prevention
1008	アノード	ANÔDO	Electrode at which oxidation reaction equivalent to a flow of electric current from electrode to electrolyte predominates. It is also called YÔKYOKU.	anode
1009	カソード	KASÔDO	Electrode at which reduction reaction equivalent to a flow of electric current from electrolyte to electrode predominates. It is also called INKYOKU.	cathode
1010	標準電位列	HYÔZUYUN-DEN'JIRETU	A series which indicates the order of the magnitude of ionization tendency of metal and the electrochemical oxidation reaction tendency of some nonmetallic elements by arranging the standard electrode potential of metal in order of the magnitude. It is also called electrochemical series.	electromotive force series

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1011	腐食電位	HUSYOKU-DEN'I	Electrode potential of a metal in a given corrosion system to the reference electrode. The corrosion potential in a natural state is also called spontaneous electrode potential. A series obtained by arranging it in order of the magnitude is called corrosion potential series.	corrosion potential
1012	防食電位	BÔSYOKU-DEN'I	The value of electrode potential required in order to stop corrosion in a cathodic protection.	protective potential
1013	防食電流密度	BÔSYOKU-DENRYÔ-MITUDO	Electric current per unit area required in order to maintain electrode potential of metal at a protection potential.	protective current density
1014	分極	BUNKYOKU	Such a phenomenon that a change of electrode potential of metal is produced by the electric current which goes in and out between a metal and an electrolytic solution.	polarization
1015	分極抵抗	BUNKYOKU-TEIKÔ	The value obtained by dividing a varied part of electrode potential in polarization by a varied part of electric current. See JIS H 0530.	polarization resistance
1016	照合電極	SYÔGÔ-DENKYOKU	Electrode having a constant electrode potential. Electrode potential of metal is expressed by the difference from this electrode potential. For the reference electrode, there are kinds of a hydrogen electrode, a calomel electrode, a silver chloride electrode, a copper sulfate electrode, etc. It is also called KIZYUN-DENKYOKU.	reference electrode
1017	局部電池	KYOKUBU-DENTI	A corrosion cell locally formed in the surface of metal due to heterogeneity of metal or environment.	local cell
1018	マクロ腐食電池	MAKURO-HUSYOKU-DENTI	A corrosion cell having the magnitude which is clearly distinguishable between an anode and a cathode, and having the position which is fixed, which includes a dissimilar-metal contact cell, an aeration cell, etc.	macro-galvanic cell
1019	通気差腐食	TŪKI-SA-HUSYOKU	Corrosion by the cell produced due to the difference in dissolved oxygen concentration.	differential aeration corrosion
1020	活性態	KASSEI-TAI	A state where a metal reacts with the environmental substance freely, and dissolves.	active state

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1021	不活性態	HU-KASSEI-TAI	A state where corrosion is not produced in the case of making the electrode potential of metal base sufficiently.	immunity, inactive state
1022	不動態	HU-DÔTAI	Such a state that a metal shows behaviour as if being a noble metal electrochemically in spite of being a base metal in standard electrode potential series.	passive state
1023	湿食	SISSYOKU	Corrosion of metal produced due to presence of water in a liquid state.	wet corrosion
1024	乾食	KANSYOKU	Corrosion of metal produced due to the reaction with a corrosive gas, without being subjected to the interaction of water in a liquid state.	dry corrosion
1025	腐食度	HUSYOKU-DO	The value obtained by dividing the amount of corrosion per unit area which was produced in a certain period by that period.	corrosion rate
1026	腐食しろ	HUSYOKU-SIRO	Thickness of the metal products to be increased by the thickness supposed to be lost by corrosion during its use.	corrosion margin
1027	大気腐食	TAIKI-HUSYOKU	Corrosion of metal produced in the atmosphere.	atmospheric corrosion
1028	土壌腐食	DOZYÔ-HUSYOKU	Corrosion of metal produced in soil.	soil corrosion
1029	均一腐食	KIN'ITU-HUSYOKU	Corrosion produced on a surface of metal, which is nearly uniform. It is also called whole surface corrosion.	uniform corrosion
1030	局部腐食	KYOKUBU-HUSYOKU	Corrosion produced on a surface of metal, which is not uniform, but locally concentrated.	local corrosion
1031	孔食	KÔ-SYOKU	Such a local corrosion that cavities extend from the surface to the inside of metal.	pitting corrosion
1032	脱成分腐食	DATU-SEIBUN-HUSYOKU	Such corrosion that a specific alloy composition dissolves selectively. The case where zinc dissolves from brass is called dezincification.	dealloying

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1033	すき間腐食	SUKIMA-HUSYOKU	Corrosion produced by the formation of concentration cell generated by such as ion and oxygen in the inside and outside of a crevice, when a crevice exists between metals or between a metal and other materials.	crevice corrosion
1034	濃淡電池腐食	NÔTAN-DENTI-HUSYOKU	Corrosion produced by the cell generated by the local difference of concentration of ion and dissolved oxygen in the aqueous solution in contact with a surface of metal.	concentration cell corrosion
1035	異種金属接触腐食	ISYU-KINZOKU-SESSYOKU-HUSYOKU	Corrosion produced when a cell is formed between dissimilar metals by the direct connection of both metals. It is also called galvanic corrosion.	bimetallic corrosion, galvanic corrosion
1036	糸状腐食	ITOZYÔ-HUSYOKU	Corrosion which advances in a filiform shape on the surface of metal mainly coated with paints or fats and oils.	filiform corrosion
1037	微生物腐食	BISEIBUTU-HUSYOKU	Corrosion induced by the microorganism which inhabits the inside of soil, or underwater.	microbiologically induced corrosion (MIC)
1038	迷走電流腐食	MEISÔ-DENRYÛ-HUSYOKU	Corrosion produced due to electric current passed through places other than a regular circuit.	stray current corrosion
1039	フレティング腐食	HURETTINGU-HUSYOKU	Corrosion produced on the surface of metal when minute slipping occurs repeatedly at the contact surface between a metal and another metal contacted with it or other substance in air. It is also called SAKKA-HUSYOKU.	fretting corrosion
1040	粒界腐食	RYÛKAI-HUSYOKU	Corrosion selectively produced in the crystal grain boundary of a metallic material.	intergranular corrosion
1041	電食	DENSYOKU	The synonym of MEISÔ-DENRYÛ-HUSYOKU.	stray current corrosion
1042	応力腐食割れ	ÔRYOKU-HUSYOKU-WARE	Such a phenomenon that cracks are generated in a metallic material due to the synergism of corrosion and tensile stress.	stress corrosion cracking