

Major Achievements - List of External Awards

Year	1950~1968 Fiscal Years	1969~1983 Fiscal Years	1984~1997 Fiscal Years	1998~2011 Fiscal Years
OKOCHI AWARD	Production Special Award	1973 Development of continuous manufacturing method of H-shape steel	1990 Development of highly efficient free-size rolling technology of H-shape steel [2-3] 1995 Low-cost and environmentally friendly coke making technology [2-1]	1990 Development of environmentally friendly Sintering technology of for difficult-to-process iron ore source [2-1]
	Production Award	1954 (Founded) 1954 Extension of rolling field of continuous blooming mill 1955 Open hearth furnace operation by high-pressure cold coke oven gas 1965 Manufacturing of stainless steel slab by continuous casting 1967 Development of new chemical conversion coated steel plate.	1975 Establishment of dynamic operation technology in converter steelmaking process 1981 Large-diameter square and rectangular steel pipe manufacturing method by roll forming method and development of the equipment	1999 Development of TRIP type automobile steel sheet superior in collision energy absorbing and press forming [3-1] 2000 Development of world-first endless hot rolling process and commercialization of new products [2-3] 2007 Development of high-strength steel plate for large container ship and design of new hull construction [1-2] 2008 Development of diagnosis/repair technology under ultimate environment that realized refreshing of coke oven [2-6] [2-7] 2009 Development of ironmaking dust recycle process using rotary hearth type reducing furnace [5-2]
	Memorial Award	1963 Development of unburned gas recovery technology for pure oxygen furnace	1972 Development of new directional silicon steel sheet ORIENTCORE HI-B® 1974 Development of manufacturing technology of deep drawing sheet with sheet continuous annealing equipment 1980 Development of manufacturing method of new seamless steel pipe by industrializing press roll piercing method 1983 Development of steelmaking/rolling direct process	1986 Development of accurate/flexible production technology in large-scale hot rolling mill [2-3]
	Technology Award	1958 Technology of new type shape steel rolling	1975 Development of new type rolling mill of high-performance shape control 1976 Development of coke-oven gas desulfurization system 1977 Development of emission spectral analysis by pulse distribution measuring method	1984 Development of directional silicon steel sheet of very low iron loss by laser irradiation
ICHIMURA AWARD	Distinguished Service Award	1969 (Founded) 1979 Development of pollution-free chemical conversion technology by means of tannic acid of galvanized steel 1981 Development of corrosion-resistant steel for hot dipping oven	1986 Development of steel superior in joint toughness utilizing new transformation mechanism 1988 Development of high-strength/tough wire 1996 Development of super-high tension steel wire for bridge	2007 Development of new S-TEN® 1, sulfate-resistant steel that remarkably improved resistance against hydrochloric acid [1-5]
	Contribution Award		1991 Development of inline heat-treated rails of high depth and high strength 1992 Development of corrosion diagnosis technology for structures by an electrochemical measuring method 1997 Heat-resistant domain control technology of directional electrical steel sheet	1999 Development of hot-rolled titanium-clad steel sheet [1-4] 2000 Development of corrosion resistant steel used at sea[1-4] 2004 Development of tough and high tensile steel plate of weld zone using nanoparticles 2005 Invention of unbonded brace and development of innovative anti-seismic technology by means of high-performance steel [1-4] 2009 Development of steel sheet for environmentally friendly fuel tank with corrosion-resistance remarkably improved 2011 Development of corrosion-resistant, environment-friendly steel plate for crude oil tanker [1-2]
NATIONAL INVENTION AWARD	Imperial Award and Prime Minister Award	1962 Automatic feed controller in particle layer conveyor (Prime Minister Invention Award) 1968 Chromated steel plate for surface coating (Imperial Invention Award)	1973 Manufacturing method of high magnetic flux density preferred oriented silicon steel sheet (Imperial invention award)	
	Award from METI, MEXT or other ministers	1962 Plymetal manufacturing method (Invention Award by Minister of state for science and technology)	1978 Manufacturing method of prefabricated cell bulkhead (Invention Award by Minister of state for science and technology) 1982 Method and apparatus for detecting shape of flat products (Invention Award by Minister of International Trade and Industry)	1987 Carbon refractory and its manufacturing method (Invention Award by Minister of state for science and technology)
	Organization Chairman and Association Chairman Award	1964 Weather-resistant, high-tensile steel (Invention Award by Chairman of Federation of Economic Organization)	1979 Corrosion-resistant low-alloy steel 1980 Noise control equipment during steel pipe transfer (Invention Award by Chairman of Federation of Economic Organization)	1993 Grain oriented silicon steel sheet of ultra-low core loss by laser irradiation (Invention Award by Chairman of Keidanren) 1995 Flexible web-height widening rolling technology for H-shape rolling by skew roll mill (Award by Chairman of Japan Patent Attorneys Association)
	Invention Award	1950 Refractory manufacturing method 1952 Alloy chilled casting method 1958 Construction method of bottom and hot well portion of blast furnace using carbon brick 1963 Inside Pipe image processor 1964 Endless conveyor-type transporting equipment 1966 Aluminum-plating method 1967 Surface treatment method of metal products 1968 Method of casting ingot mold by means of molten metal in blast furnace	1969 Method to evenly reduce and uniformly arrange the increments sampled in the sampling equipment of bulk material 1969 Method of producing electrical insulation film of silicon steel sheet 1970 Method of adjusting exhaust pressure of blast furnace 1970 Method of igniting in sintering machine 1970 Improved method of generating insulation film of silicon steel sheet 1971 Wire or rod having coarse and sized austenite grains 1972 Method of drying blast furnace lining 1974 Steel sheet pile rolling method 1983 Invention of basic refractories	1985 Hot blast-furnace-lining repairing apparatus 1985 Molten metal trough 1985 Pitting-resistant steel pipe with higher resistance to pitting collision in the weld 1997 Ultra-low-carbon steel sheet with combined addition of Nb and Ti superior in press forming and adherence of galvanized coating
				MONOZUKURI NIPPON GRAND AWARD
				2004 (Founded) 2007 Rail with wear resistance and resistance against internal fatigue damage for heavy-haul railway 2009 Development of environmentally friendly fuel tank steel sheet (EcoKote®-S) with remarkably improved corrosion resistance (Prime Minister's Award) 2009 Development of environmentally friendly advanced steel "low-carbon free-cutting steel not using lead" 2009 Development of ultra-high-strength steel sheet with good formability to contribute to automobile fuel efficiency and passenger protection 2009 Development of nickel type weather-resistant steel for unpainted bridge and practical use of corrosion-resistant technology system to support the security 2009 Development of high strength and high strength (47kg) steel plate for large container ship and design of new hull construction [1-2]

Numbers in parentheses indicate related articles in this journal