

47 COMPANY PROFILE

NORITAKE CO., LIMITED *Noritake*

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Website	https://www.noritake.co.jp/
Contact Person	Sumio Nishiwaki Shuji Kawabata
Capability Category	Manufacturing (From Prototype to Mass Production) Development, design, and commercialization of Ceramics Cores for precision investment casting and industrial abrasive grind wheel. Development and commercialization by additive manufacturing.
Representative	Hiroshi Kato
Sales Amount	1,198 Million USD /2018 (@ 105 yen/USD)
Capital	149 Million USD (@ 105 yen/USD)
Employees	5091
Established	January 1st, 1904
Certification	ISO9001, JQA-2835 and ISO14001
Major Customers	MHI, KHI, IHI, HOWMET AEROSPACE

■ Business Overview

NORITAKE's Ceramic Cores are being used for manufacturing high-precision rotor and stator blades for gas turbines and jet engines, these ceramic cores contribute greatly to high quality of precision investment casting materials. In addition, we can make the Ceramic Cores by additive manufacturing (3D printing) which contributes greatly to the shortening the development and commercialization speeds to meet customer or market demands. In addition, we can develop, design and commercialize the various abrasive tools for difficult-to-machine materials including heat-resistant steel.



■ Products • Materials • Part Sizes • Facilities & Equipment

The product line of NORITAKE's Ceramic Cores are shown at below or above table. We have various molding methods and materials, and we can support any sizes and shapes of the products. Selection is made from among the material model on the basis of molten metal temperature, casting materials, and shape (size) of cast product at customer's request. Minimum thickness is 0.30mm, Maximum thickness is 150mm, Maximum length is 1,000mm

Shortening the development or commercialization time, we can also provide the prototype ceramic cores made by Additive Manufacturing. In addition, we can offer most suitable abrasive tool and the specifications to any machining materials or abrasive method according to customer or market demands.

Material model 品番	MONARC					
	N200	N400	N450	N500	N600	N700
Major composition 主成分	SiO ₂ -ZrSiO ₄	SiO ₂ -ZrSiO ₄	SiO ₂ -ZrSiO ₄ -Al ₂ O ₃	SiO ₂ -Al ₂ O ₃	SiO ₂ -Al ₂ O ₃	SiO ₂ -ZrSiO ₄
Molding method 成形方法	Pouring method 重力成形	Medium pressure injection molding 中圧射出成形			High pressure injection molding 高圧射出成形	
Trace impurities 痕量不純物	Fe <300 ppm Pb <25 ppm Bi <1 ppm Ag <1 ppm	<80 ppm <25 ppm <1 ppm 1 ppm	<80 ppm <25 ppm <1 ppm <1 ppm	<30 ppm <25 ppm <1 ppm <1 ppm	<200 ppm <25 ppm <1 ppm <1 ppm	<300 ppm <25 ppm <1 ppm <1 ppm
Characteristic values 特性値	Porosity 気孔率 30%	34%	33%	34%	35%	34%
Thermal expansion rate at 1000°C 熱膨張率	0.25%	0.25%	0.25%	0.25%	0.10%	0.25%
Bending strength 曲げ強度	at Room Temperature 7Mpa	6Mpa	9Mpa	10Mpa	7Mpa	8Mpa
at 1,000°C	24Mpa	20Mpa	25Mpa	24Mpa	20Mpa	22Mpa
Size サイズ	Maximum length 最大長 ~L1000mm	~L500mm		~L300mm		~L250mm
Minimum thickness 最小肉厚	0.80mm	0.50mm		0.50mm		0.30mm
Cast type 製造方法	CC/DS/SC	CC	CC/DS/SC	CC	CC	CC/DS/SC

■ Our Strength

NORITAKE is one of the leading company for "Ceramics" and has 4 different business fields with the application and development of a variety of ceramics manufacturing technologies which come from tableware production we originally started. Utilizing "NORITAKE core technology" which means that controlling the size and volume of pores in ceramic and our special materials design and firing technology, our special industrial grinding wheels with optimized abrasive grain arrangement and our special ceramics cores support various industries.

■ Needs we can correspond / Business partners we want

We would like to be one of the business partners with any overseas companies for the precision investment casting on Aero-engines, IGT and something.

■ Office & Plants

Miyoshi Factory, Aichi Japan (For Ceramic Cores)
Matsusaka Factory, Mie Japan (For Ceramic Cores)
Miyoshi Factory, Aichi Japan (For Industrial abrasive grind wheel)
Kurumei Factory, Fukuoka, Japan (For Industrial abrasive grind wheel)