



GENERAL CATALOGUE

CaCO₃

NITTO FUNKA TRADING CO.,LTD.

NITTO FUNKA KOGYO K.K.

CONTENTS

I	Features of our products	P1
II	List of physical tests and measuring methods	P2~3
III	Outline of NCC series	P4
IV	Outline of S - LITE series	P4
	Outline of NOVELIGHT series	P5
VI	Outline of NEWLIGHT series	P5
VII	Outline of TSS series	P5
VIII	Outline of CALPET series	P6
IX	Outline of KANSUI, KANSUISEKI(White marble) series	P6
	Outline of CALWALL series	P6
XI	Outline of calcium feed series	P7
XII	Outline of HODO, APPLON series	P7
XIII	List of quality tests and measuring methods	P8
XIV	Principal applications of products	P9

If you have any question, ask us anything, and we are glad to explain you.
Our samples and catalogues are free. Please call or write our office.

FEATURES OF OUR PRODUCTS

Since the establishment in 1953, Nitto Funka Kogyo K.K. has been attending to Mining, Manufacture, Processing and Sales of Calcium Carbonate (CaCO₃).

Although Japan's natural resources is limited, We possess mines of precious crystal limestone nearby each plant and we take pride in its high quality and buried reserves.

Moreover, Ultrafine particle NS series, being reputed as a breakthrough products in heavy calcium carbonate against light calcium carbonate, is exploited owing to our laboratory and technical staffs with creative ideas and continuous efforts.

Following to ultrafine particle NS series, new products such as surface treated NCC series, Novelight series, Granular type Calpet and Nitorex series comparable to colloidal calcium carbonate are developed.

Making the most use of cultivated experiences and technologies in heavy calcium carbonate, In 1982, we started production of Natural Zeolite after exploiting the newly underground resources and continue technical development, consign products by contract based on our accumulated technologies of grinding, classification, granulation and processing for our customers in various fields.

Our plants are located in three bases, Tojyo factory (Hiroshima pref.) in western part of Japan, Suzuka factory (Mie pref.) in central part, and Fukushima factory (Fukushima pref.) in eastern part, for prompt and stable supply for customers throughout Japan.

We, Nitto Funka Kogyo K.K., with our motto of stable quality and supply, strive to attain for development in local society and industry through effective exploitation in domestic underground resources.

OUTLINE TABLE OF PHYSICAL TEST OF PRODUCTS

Testing Items	Products	NS #2500	NS #2300	NS #1000	NS # 400	NS # 100	SS #30
Net	kg	25kg	25kg	25kg	25kg	25kg	30kg
Average Particle size	µm(1/1000mm)	0.9	1.0	1.2	1.7	2.1	7.4
Residue on 45µm	%	0.0	0.0	0.0	0.0	0.005	5.0
Sediment volume	30min (ml)	87.0	86.0	84.0	69.0	51.0	14.0
	60min (ml)	74.0	72.0	67.5	39.0	26.5	13.5
	24hours (ml)	41.0	39.0	35.0	23.0	19.5	13.5
Apparent specific gravity	A: g/ml	0.23	0.24	0.28	0.38	0.46	0.83
	B: g/ml	0.76	0.80	0.90	1.09	1.19	1.45
Oil absorption Value	ml/100g	36.0	34.5	32.5	28.5	26.0	17.5
DOP absorption value	ml/100g	58.0	57.0	55.0	49.0	44.0	29.0
Water absorption value	ml/g	0.58	0.57	0.54	0.48	0.44	0.32
Whiteness	%	94	94	94	94	93	90
Loss of drying	% (Less than)	0.4	0.4	0.3	0.3	0.3	0.2
True specific gravity		2.7	2.7	2.7	2.7	2.7	2.7

Measuring method	Average particle size : By SUIITO's Surface Area Analyzer by SHMADZU Ltd. Relative surface area of the powder 1 g. Diameter converted from the above Specie surface $\text{Average Diameter} = \frac{6}{\text{Density} \times \text{Specific Surface}} \quad (\mu\text{m})$
	Residue on 45µ : JIS-K5101 By wet process with sample 1000g on JIS sieve 45 micron on.(330 mesh)
	Loss of drying : JIS-K5101, 110 2 hours.
	Sediment volume : Put 15g of sample into a 100ml glass cylinder and add water to make 100cc. Shake the cylinder vigorously then let stand still for the hours specified and measure the precipitation volumes.(at20)

<TOJYO products>

NN #500	NN #200	MM100	NITOREX 30P	NITOREX 23P	NITOREX #80	NITOREX #70	MAMACALSO	3S
30kg	30kg	25Kg	20kg	25Kg	25Kg	25Kg	25Kg	30kg
4.4	14.8	2.1	0.7	1.0	0.9	1.1	2.2	5.6
0.05	^{300mesh} 5.0	0.0	0.0	0.0	0.0	0.0	0.01	0.2
19.0	13.0	51.0	89.0	87.0	86.5	84.0	48.0	16.0
15.0	13.0	26.5	81.0	77.0	73.0	68.0	25.0	14.0
14.5	13.0	19.5	49.0	41.0	40.0	35.5	19.0	14.0
0.70	0.91	0.46	0.54	0.5	0.24	0.28	0.44	0.76
1.39	1.49	1.19	1.05	1.11	0.78	0.89	1.21	1.41
18.5	16.0	26.0	24.0	22.0	35.0	32.5	25.0	18.0
31.5	28.0	44.0	27.0	24.0	57.5	55.0	43.0	30.0
0.35	0.30	0.44	0.5	0.55	0.57	0.54	0.43	0.33
92	90	96	93	93	94	94	95	94
0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.2
2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7

Apparent Specific gravity A:	JIS-K5101 Loosest.
Apparent Specific gravity B:	Put 5g into a 20 ml beaker with the graduation line. Fall it 100 times from 5cm height.
Oil absorption value:	Adding linseed oil dropwise, and find the point of making a lump.(JIS-K5101)
DOP absorption value:	Adding DOP dropwise, and find the point of making a lump.
Water absorption value:	Adding water drop wise and find the just point of making fluidization.
Whiteness:	Comparis on with whiteness of MgO (= 100%),by KETT. C-1 TYPE

OUTLINE TABLE OF CHEMICALLY PROCESSED PRODUCTS

NCC series

For improvement of impact resistance especially in rigid PVC

Surface treated products by several kinds of special organic chemicals.(Suspension in water) <TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
NCC V - 2300	25	1.0	0.33	34.0	92.5	[For rigid PVC] 1.Improvement of impact resistance. 2.Excelling in processability(dispersion, fluidity)
NCC V - 1000	25	1.2	0.37	32.0	92.5	3.Superb weather resistance [For flexible PVC]
NCC V - 400	25	1.7	0.47	26.0	93.0	1.Enhanced gloss in higher grade. 2.Big saving of plasticizer. 3.Improvement of tensile strength, tear resistance. 4.Excellent thermal stability.

Best for PVC electric wires and cables

Products coated in various organic chemicals and saturated fatty acid.(Hydrophobic) <TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
NCC P - 2300	25	1.0	0.36	38.0	93.0	1. Suitable for PVC electric wires 2. Excellent insulation resistance. 3. Increased tensile strength, tear resistance.
NCC P - 1000	25	1.2	0.40	36.0	93.0	4. Saving of plasticizer. 5. Good thermal stability.
NCC - P	25	1.7	0.52	30.0	93.5	6. Good gloss, low melting viscosity. 7. Excelling in processability. (excellent roll separation, mold parting, extrusion performance)

For PVC and all other plastics. General purpose processed products.

Products coated with saturated fatty acid.(Hydrophobic) <TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
NCC#2310	25	1.0	0.36	42.0	93.5	1. Hydrophobic, no risk of moisture absorption. 2. Extremely good dispersion, hence no fear of aggregation. 3. Less absorption of plasticizer.
NCC#1010	25	1.2	0.40	39.5	93.5	4. Less absorption of dyestuff, clear in color. 5. Low melting viscosity.
NCC# 410	25	1.7	0.52	33.0	93.0	6. Good fluidity, small repose-angle. 7. Suitable for dry blend.
NCC# 110	25	2.1	0.61	29.0	92.5	8. Good thermal stability.
NCC# 45	30	4.4	1.13	23.0	91.5	
NCC - A	25	2.1	0.63	26.0	93.5	Besides, lubricating effect is particularly large; effective also for prevention of spattering.

S-LITE serie

For FRP. Low viscosity filler for SMC, BMC.

<TOJYO products>

Products	Net- kg	Average dia μm	Treatment	Oil absorption ml/100g	Whiteness %	Feature
S-LITE #1200	25	2.1	Non treatment	22	92.0	1. When used in FRP, the viscosity is notably low. (When 200PHR is blended, the viscosity is about 1/5 to 1/10 as compared with general calcium carbonate.) 2. Mass filling, great cost reduction possible. 3. Improved thermal resistance, rigidity. 4. When molding mold parting is easy, fewer sink marks and warps. 5. Good dispersion effects good efficiency of job

NOVELIGHT serie

For NR, SBR, and all other rubber products.

Substitute for colloidal calcium carbonate, light precipitated calcium carbonate. Cost reduction.

Products coated with surfacc active agent,(Hydrophilic.) <TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
NOVELIGHT - 3T	25	1.0	0.24	33.0	93.0	1. Physical properties equally comparable with colloidal calcium carbonate. 2. Good dispersion, Fine surface finishing. 3. Excellent processability, mass blending is possible. 4. Energy saving by low Mooney viscosity.
NOVELIGHT - A	25	1.7	0.38	26.0	93.5	1. Competitive to light precipitated calcium carbonate. 2. Excelling in dispersion. 3. Good processability, mass blending is possible. 4. Cost reduction

For sponge, rubber sheet dusting.

Magnesium silicate blend.(Hydrophilic) <TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
NOVELIGHT - PP	25	1.3	0.3	33.0	80.0	1. Excelling in dispersion, slight tackiness 2. Excelling in foaming rate of sponge.

NEWLIGHT serie

For oil-based paints, water-based paints, putty.

<TOJYO products>

Products	Net- kg	Average dia μm	Treatment	Oil absorption ml/100g	Whiteness %	Feature
NEWLIGHT - F	25	2.1	Coated with organic chemicals.	23.0	92.5	Excelling in dispersion, prevention of precipitation and aggregation when used in water-based emulsion paints.
NEWLIGHT - LL	30	2.1	Coated with organic chemicals.	21.0	92.5	1. Most suitable for oil putty, sealing, caulking 2. less oil absorption. 3. Suitable for controlling viscosity. 4. Prevention of caking of paint.

TSS series

Titanium coupling agent coated products

<TOJYO products>

Products	Net kg	Average dia μm	Apparent specific gravity A	DOP absorption ml/100g	Whiteness %	Feature
TSS#1000	25	1.2	0.4	39.5	93.5	1. Titanium coupling agent coated products. 2. Lowered melting viscosity.
TSS# 400	25	1.7	0.52	33.0	93.5	3. Good thermal stability. 4. Good dispersion, improved processability.
TSS# 100	25	2.1	0.61	29.0	92.5	5. Big saving of plasticizer. 6. Improved physical properties.

CALPET serie

For PP, PE, EVA, and other polyolefins

General purpose Calpet for blending of PP, PE products

<TOJYO products>

Products	Net kg	content Resin/ CaCO3		Specific gravity	Shape	Feature
CALPET - A	25	20%	80%	1.9	Pellet	1. For both extruded products and injected products. 2. For inflation, PP band, blow - molding etc. 3. Contributing to enhancement of strength.
CALPET - M	25	20%	80%	1.9	Pellet	For automobile carpets, in particular. High MI (more than 100), easy processing.

* Besides the Calpet products listed above, products of different blending will be manufactured according to request.

KANSUI, KANSUISEKI PRODUCTS (WHITE MARBLE) <TOJYO products>

Name	Net kg	Size mesh	Application	Name	Net kg	Size mesh	Application
KANSUI #1630	30	16pass 30on	Agricultural chemical carrier (grain) (fine grain)	KANSUISEKI 1-RIN	25	30 pass 70 on	1. Building materials 2. Plastering materials (scraping) (glossing) (wash and finishing) 3. Precast concrete 4. Decorative block 5. Terrazzo
KANSUI #50150	30	50pass 150on		KANSUISEKI 2-RIN	25	30 pass 50 on	
KANSUI #65150	30	65pass 150on		KANSUISEKI 3-RIN	25	16 pass 30 on	
KANSUI #65250	30	65pass 250on		KANSUISEKI 5-RIN	25	10 pass 16 on	
NN-200	30	300pass 10 μ on	DL(drift less) carrier	KANSUISEKI 8-RIN	25	8 pass 16 on	
KANSUI #16	30	16pass	For general industries 1. PVC tile 2. Lysine paint 3. Traffic paint 4. Ceiling material 5. Wall material 6. Glass 7. flux 8. Board 9. Artificial marble 10. Others	KANSUISEKI 1-BU	25	5 pass 10 on	
KANSUI #30	30	30pass		KANSUISEKI 1.2-BU	25	5 pass 7 on	
KANSUI #40	30	40pass		KANSUISEKI 1.5-BU	25	4 pass 7 on	
KANSUI #50	30	50pass		KANSUISEKI 2-BU	25	2 pass 5 on	
KANSUI #70	30	70pass		KANSUISEKI 3-BU	25	2 pass 4 on	
KANSUI #100	30	100pass		KANSUI # 2 KANSUI #16 KANSUI #30	30 in bulk	Mixed feed, etc	
KANSUI #2448	30	24pass 48on					
KANSUI #3050	30	30pass 50on					
KANSUI #3070	30	30pass 70on		BM	30 in bulk	For road, fertilizer, feed desulfurization, for exhaust fume acid neutralization.	

CALWALL serie

Ideal for decorative wall materials

Products	Net kg	Size mesh	Blending	Application
CALWALL #1630	30	16pass 30on	Special Kansuiseki Special white coloring agent Special binders Organic chemicals	1. Especially for decorative wall. 2. Round pellet form. 3. High degree of whiteness. 4. Strong hiding power. 5. dyeing with various colors is easy.
CALWALL #2448	30	24pass 48on		
CALWALL #3050	30	30pass 50on		
CALWALL #3070	30	30pass 70on		

CALCIUM FEED serie

Medicines for animal use, feed additive

Products	Net kg	Ingredients	Features
MINECAL	25	(Medicines for animals) (General nutritive preparation containing minerals and vitamins) Calcium carbonate, calcium phosphate, minerals(Cu, Fe, Zn, I, Co, Mn), yeast, salt.	1. Calcium carbonate, the main active ingredient, has a very high purity, and, is, in the form of ultrafine powder so that digestion and absorption will be excellent. 2. Six minerals indispensable for animals are contained. 3. High quality dry yeast is contained as the feed source of various digestive enzyme. 4. Nice to animal's taste, without any offensive smell. 5. long shelf life. Never degenerates. 6. Price is low.
TOMITSH CALCIUM	20	calcium carbonate containing molasses	1. Aroma and sweet taste will stimulate the appetite 2. Digestion and absorption are encouraged by the mechanism of enzyme and growth of organic microorganisms in the gastrointestinal tract. 3. Since it promotes fermentation of lactic acid and prevents decay when used in silo filling, it is suited especially to silage of sweet potatoes.
NIKAL	25	(Medicines for animals) calcium carbonate	1. Calcium carbonate has high purity, and is in the form of ultrafine powder, so that it may be digested and absorbed quickly. 2. Tasteless and odorless. 3. Withstands a long-term storage, never, degenerating 4. Low Price
TAMAGO NO MOTO	30	calcium carbonate of highest purity	1. The revolution in the poultry industry. Calcium pellets taking the place of oyster shells. 2. The economical effect is twice that of oyster shells. Free from degeneration in long-term storage. 3. Egg shells become hard; fragile eggs may be prevented, and egg production rate will be increased.

HODO, APPLON serie

For soil improvement in paddy field, upland field, and fruit and gardening

Products	Net kg	Ingredients	Features
HODO No.1 (for paddy field)	20	(Fungi blended) Thermophilic cellulose-decomposing microorganisms (mo) anaerobic-cellulose-decomposing mo,	1. Growth of soil effective microorganisms, mainly thermophilic cellulose decomposing fungi. 2. In the soil decomposition and decaying of rice and wheat straws and stubble. 3. Quick-decomposition of organic substance. 4. Stable and rich harvesting by activity of roots and prevention of low rice-crop.
HODO No.55 (for upland field)	20	hemicellulose- decomposing mo, pectin-decomposing mo. Lipid-decomposing mo. photosynthetic mo. nitrogen-fixing mo. etc.	5. Prevention of occurrence of hydrogen sulfide and harmful gas, and decomposition thereof. 6. Soil making good for repeated cultivation. 7. Making of soil aggregate structure. 8. Promoting the activity of the roots, safe, stable, and rich harvesting is realized.
NK-52	20	(Main ingredients) Silicic acid, iron oxide, magnesium oxide, calcium carbonate, manganese, copper, molybdenum	9. For making fully matured high quality compost. * HODO No.55 contains natural growth factor especially for upland field.
APPLON (hydrophilic fruit surface protective agent)	5 · 10 · 12	Calcium carbonate of ultrafine powder and high purity. Wetting agent. etc	1. Prevention of fruit surface hazared. (Protecting the skin, improving the coloring) 2. Prevention of physiological disturbance and improvement of fruit quality. 3. Without reduction of bacteriocidal effect due to simultaneous use of organic fungicide, a uniform film is formed. 4. Dehiscent fruit may be avoided. 5. Prevention of "bitter bit."

QUALITY TESTS AND MEASURING METHODS

<TOJYO products>

Item	Products for chemical industry	MAMACALSO(PSFA)	Standard
Form	Pure white,tastless, odorless, fine powder	Pure white,tastless, odorless, fine powder	PSFA, (Public Spec.of Food Additives)
Identification	Positive	Positive	PSFA
State of HCL adding	Almost Transparent	Transparent	JIS
Purity test	Insoluble matter by acid (SiO ₂)	less than 15.0mg/5g	Less than 0.20%
	Free alkali	Pass	Pass
	Arsenic (As)	Pass	Pass
	Heavy metal(Pb)	Less than 40ppm	Less than 20ppm
	Alkaline metal & Magnesium	Less than 10mg/0.5g	Less than 5mg/0.5g
	Barium (Ba)	-----	Less than 0.030%
Iron(Fe)	Less than 0.02 %	(Less than 0.01 %)	Private Speck.
PH	8.5 to 9.5	8.5 to 9.5	JIS
Content	97.5 %	98.0 to 102.0 %	PSFA
Ignition Loss	More than 43 %	(More than 43.5 %)	Private Speck.
Loss of drying	0.2 to 0.4 % or less	Less than 0.3 %	JIS

Identification

Sample is dissolved with bubble by adding dil-CH₃COOH. This solution is neutralized with aqua. NH₄OH and in case of adding aqua.(NH₄)₂C₂O₄·H₂O.ppt is produced with white color. This ppt is insoluble against CH₃COOH but soluble in HCl

State of HCl adding

Sample 5g is mixed with 10ml H₂O,(and is) added HCl drop by drop under aditating, and filled with 200ml by H₂O. It is dissolved nearly transparent.

SiO₂

Sample is weighted by acid-insoluble matter

Free alkali

Free alkali is neutralized with HCl and calculated as Na₂CO₃.

Arsenic

AS contents is compared with the standards.

Heavy metal

Sample 2gr. is added H₂O 5ml and dil-HCl 6ml and vaporized at dry then dissolved with H₂O 50ml, and filtrated and then, filled up by dil-CH₃COOH 2ml and 25ml H₂O. This solution contained PB is compared with the standards by a calorimeter as P6S.

Alkaline metal & magnesium

Sample 1g is dissolved with H₂O 20ml and dil-HCl 10ml, boiled, added NH₄OH soln and (NH₄)₂C₂O₄·H₂O. This soln is heated for 1hr, after cooling, diluted with H₂O and filled by 100ml H₂O, and filtrated. This filtrate 50ml is added with H₂SO₄ 0.5ml and ignited by constant weight.

Barium

Pt wire is wetted with small amount of the above filtrate and ignited in the oxidized burner and has no action of green flame reaction.

Iron

Sample 2gr is added dil-HNO₃(1:4) 5ml boiled for 1 min. after cooling filled by 50ml with H₂O, and added MH₄SCN-slon 5ml. Color is compared with the standard within 5 mins.

PH

JIS K5101A method, water is added to the sample to suspend, and the solution is boiled. 5min later, the solution is let stand to room temperature, and the supematant is measured.

Content

Sample is dried for 4 hours at 180 this sample 200mg is added dil-HCl 10ml and H₂O 10ml, boiled. added H₂O 100ml again boiled after adding NH₄OH soln. and excess hot(NH₄)₂C₂O₄·H₂O soln. hearted for 1 hour, filtrated.PPt is washed sufficiently with hot water. Filter paper is made a hole. PPT. is pored in beaker and added dil-H₂SO₄(1:3)30ml,heated 80 this soln is titrated with NKMnO₄ soln, and calculated as CaCO₃

Ignition Loss

Sample is ignited at above 900 until constant weight and weighted as loss

Loss of drying

Sample is dried for 2 hours at 110 and weighted as H₂O.

PRINCIPAL APPLICATIONS OF PRODUCTS

	N	S	N	N	MAMACALSO	3S	NCC		NCC-V	NCC-P		NOVE-LIGHT		S-LITE#1200		NEW LITE		CALPET		TSS#	CALWALL	KANSUI	KANSUISEKI	HODO	APPLON
							2310	A		2300	P	3T	PP	F	LL	A	M								
See page	2	2	3	3	3	3	4	4	4	4	4	5	5	4	5	5	6	6	5	6	6	6	7	7	
For PVC	wire,cable																								
	Seat, leather																								
	Moldings																								
	Pipe																								
	Profile extrusion																								
For rubber	Tile																								
	Footwear																								
	machine parts, belt,hose																								
	Rubber lined cloth																								
	Electric wire, cable																								
	Sponge																								
For FRP	Tire																								
	Gum cements																								
For PP PE	FRP																								
	SMC, BMC																								
For EVA	General extrusion																								
	Film																								
For Paper	Injection molding																								
	Blow molding																								
For Paper	Sponge																								
	Carsheet																								
For Paper	Coated paper																								
	inner filler																								
For paint	Synthetic paper																								
	Synthetic resin paint																								
	Enamel																								
	Oil-based paint																								
	Emulsion paint																								
	Primary																								
For paint	Lysine paint																								
	Traffic paint																								
Putty, caulking, sealing	Back sizing(latex)																								
	Pigment, Colors																								
	Acid neutralization																								
	Glass																								
	Medicines																								
	Toothpaste																								
	Food additives																								
	Agricultural chemicals																								
	Building materials																								
	Decorative wall materials																								
	Agriculture																								

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