



SEMICONDUCTOR

Material & Equipment Technology

DOU YEE
E N T E R P R I S E S

COMPANY PROFILE

DOU YEE ENTERPRISES is a world renowned total solution provider for semiconductor, electronics and healthcare industries.

With ISO9001 and ISO14001 certified manufacturing plants in Singapore, Malaysia, China and Europe ; 45 offices across 24 countries, it serves its worldwide customers with the philosophy of “Global Capability, Local Focus”.

It has leading position in Electrostatic Control, Micro-Contamination Control and Dry-Packaging.

STREAM OF PRODUCTS & SERVICES

- ◆ Dry Packaging / Electronic Packaging Materials
- ◆ Semiconductor, Electronic Equipment and Tools
- ◆ Chemicals for Electronics Industry
- ◆ Micro Contamination Control
- ◆ Healthcare and Bio-Medical supplies
- ◆ Personal Protective Equipment
- ◆ Electrostatic Discharge Control



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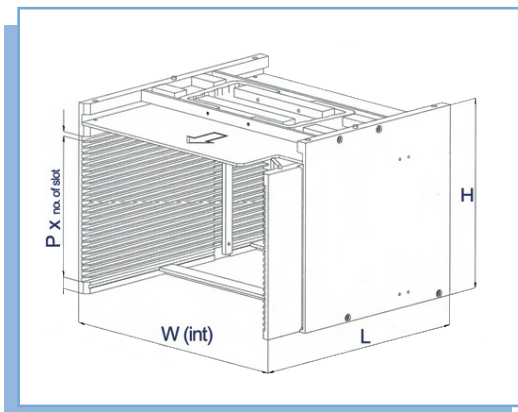
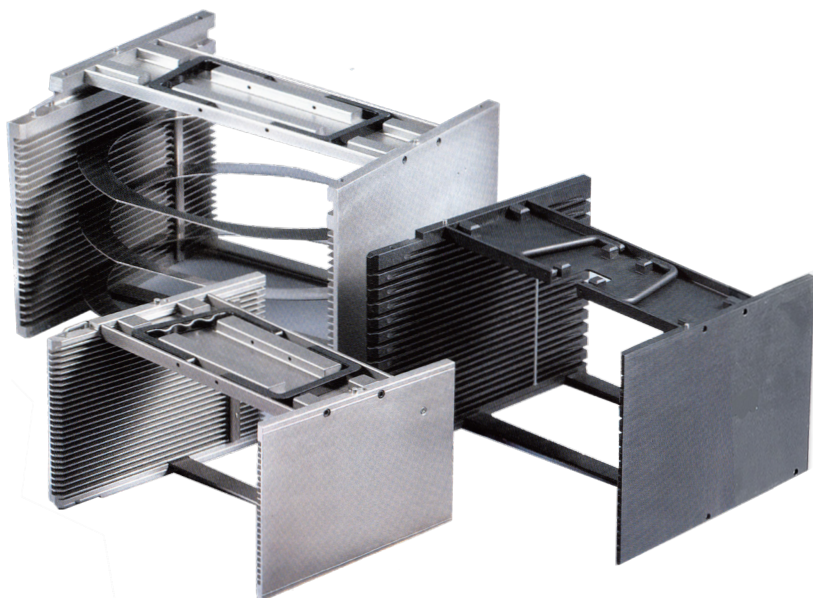
ASSEMBLY TOOLS & EQUIPMENT

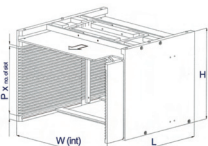
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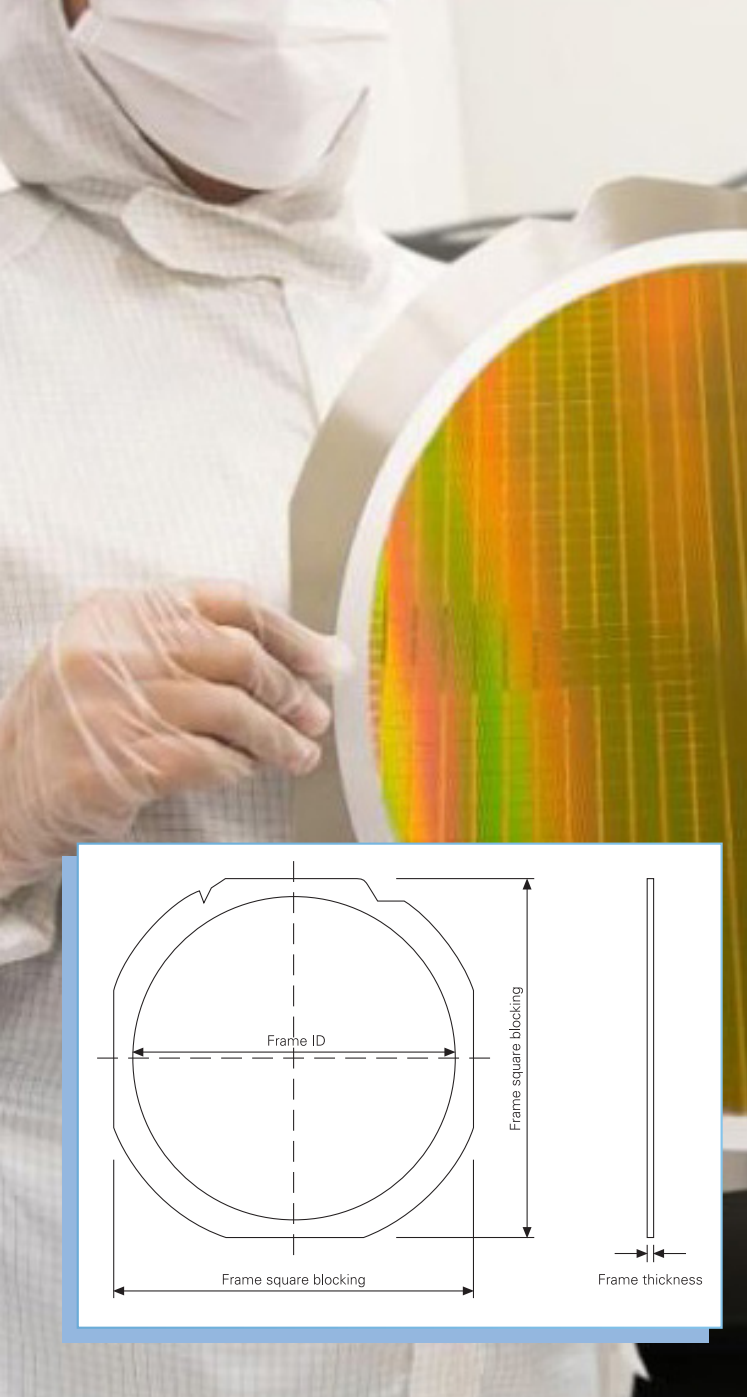


MATERIALS

Wafer Frame Cassette



Dou Yee P/N	L	W	H	Px no. of slot	Remarks
 DY-WFC-003	206	216	143	4.75 x 24 slots	for 6" wafer frame (DY-WFR-003)
 DY-WFC-001M	276	279.2	205.6	6.35 x 24 slots	for 8" wafer frame (DY-WFR-001M)
 DY-WFC-007B	274.1	268.7	142.8	4.75 x 24 slots	for 8" wafer frame (DY-WFR-007B)
 DY-WFC-041	387.5	382.9	182	10 x 12 slots	for 12" wafer frame (DY-WFR-041)
 DY-WFC-043	389	383	187	10 x 12 slots	for 12" wafer frame (DY-WFR-043)



Our Wafer Frame

are manufactured using the latest state-of-the-art technology. Strict in-process control is maintained throughout the various manufacturing stages with minimal handling. This ensures consistency in the quality of our wafer frames.



- ◆ 5" Wafer Frame
- ◆ 6" Wafer Frame
- ◆ 8" Wafer Frame
- ◆ 12" Wafer Frame
- ◆ Customized Wafer Frames

Industrial Standards	Dou Yee Part No.	Wafer Size (inch)	Frame Square Blocking (mm)	Frame ID (mm)	Frame Thickness (mm)
DISCO					
2-12-1	DY-WFR-041	12"	380	350	1.5
2-8-1	DY-WFR-001	8"	275.2	250	1.2
2-8-1	DY-WFR-001A	8"	276	250	1.2
2-6-1	DY-WFR-003	6"	212	194	1.2
K&S					
350-104	DY-WFR-007B	8"	266.7	242.4	1.5
350-103	DY-WFR-008	6"	216	192.6	1.2
350-102	DY-WFR-010	5"	184.15	165.1	1.2
TSK	DY-WFR-016	8"	276	255	1.2

Plastics Grip / Hoop Rings

Top and Bottom
Indicator Marking

.....

Full Range of Sizes,
Customized Colours
Available

.....

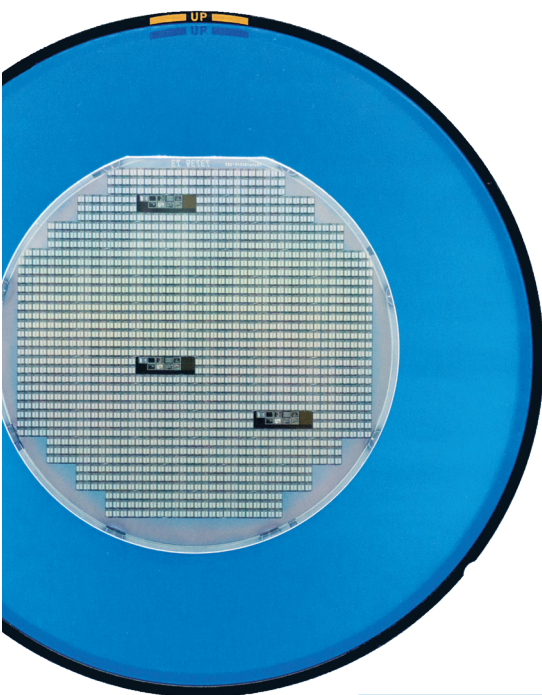
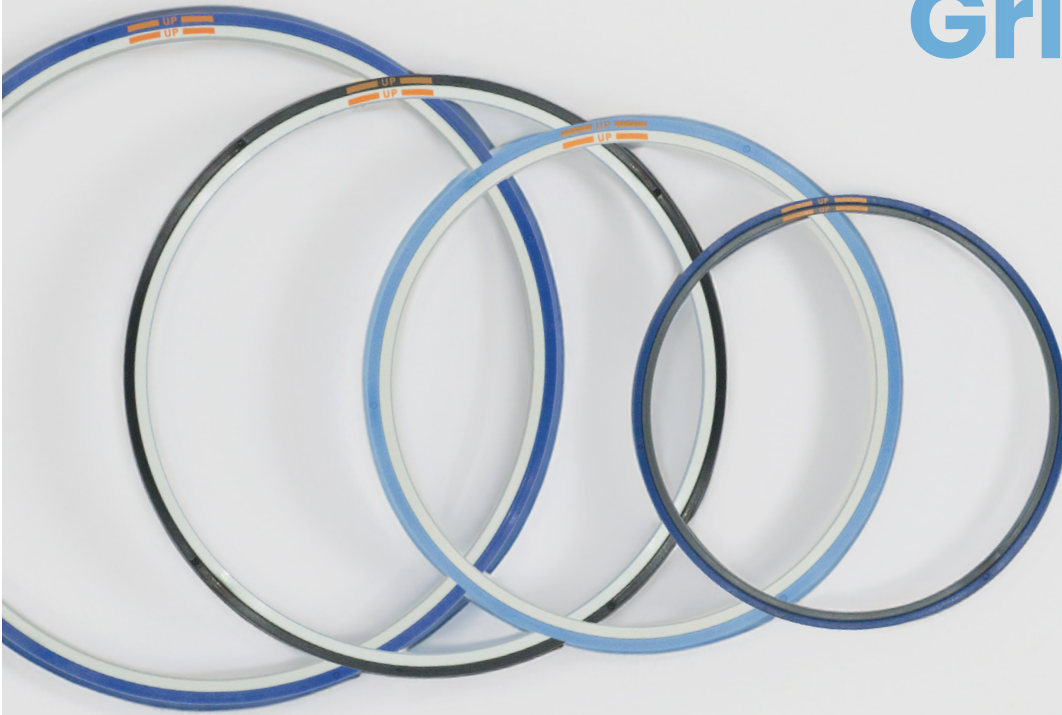
Design and Produce
to Exact Tolerance

.....

Durable and Heat
Resistant

.....

ESD Safe

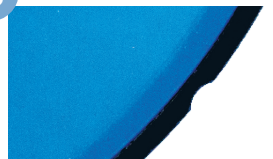


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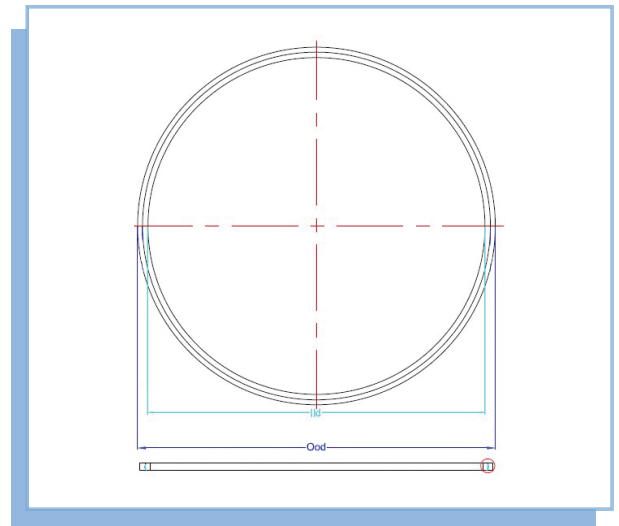


Top Marking

B



Locator Notch



Specification

Wafer Size (In)	Ring ID (mm)	Ring OD (mm)	Thickness (mm)
6	140	152	6
7	170	186	6
8	195	210	6
10	225	241	6

SEMICONDUCTOR WAFER-DIE SEPARATION SOLUTIONS

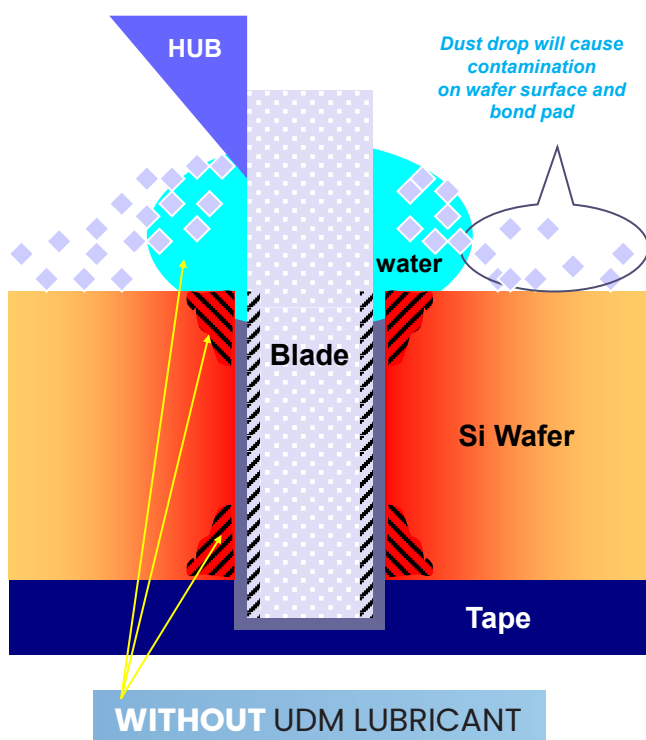
UDM Systems®, LLC products are specifically designed for use in multiple applications in semiconductor manufacturing industries. Both our consumable products and dispensing equipment are specially designed to be environmental friendly, as well as a robust and easy to use technology.

We strive to provide the best suited product to our customers as well as onsite support for process development and troubleshooting of process issues for new and existing customers.



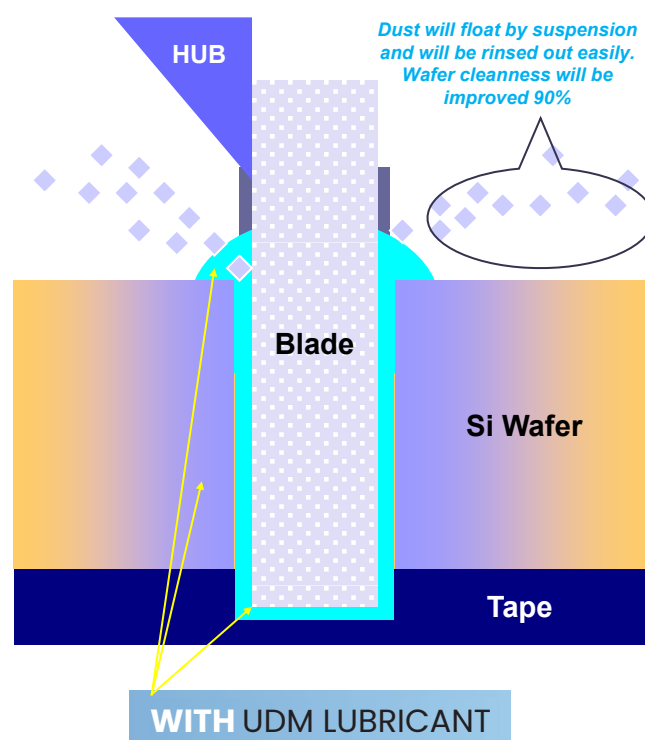
ADD VALUE TO YOUR DIE-SEPARATION PROCESS

UDM Systems®, LLC semiconductor lubricants represent the best technology for your wafer dicing needs. Our products are specifically designed to enhance lubrication, prevent galvanic corrosion, dissipate heat and eliminate topside and bottom side chipping in a clean and effective way, no matter what your individual specifications are.



DI water surface tension stop water cooling the blade in dicing street.

It will cause: Heat, High friction, topside or backside chipping, short blade life, ESD damage.



DI water surface tension is reduced to 28-33 dynes/cm.

Water can penetrate into dicing interface between blade and Si.

In this way, it will :

- Improve heat dissipation effectively
- Reduce the topside and backside chipping
- Longer blade life
- Minimize / Eliminate ESD damage

NIKALET ECR

is a melamine based mold cleaner developed by Nippon Carbide Industries Co., Inc. It is specially designed for cleaning of epoxy mold tools in semiconductor manufacturing.

By using NIKALET ECR, customer can clean the mold surface in the same process as the epoxy molding without detaching the mold tool and this improves productivity.

Various kind of epoxy molding compound have been developed by maker with changes in package for semiconductor, NIKALET ECR exhibits high cleaning ability for any kind of epoxy molding stains.

NIKALET ECR comes in two types:

Transfer Type - Circular Cylinder Pellets

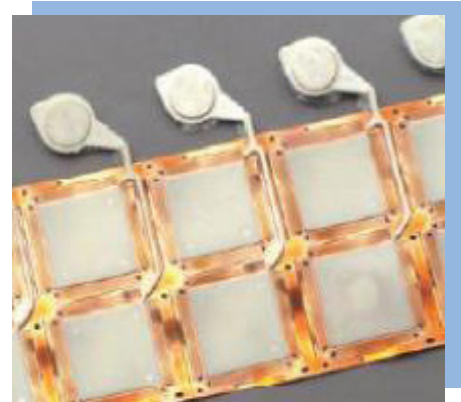
Compression Type - Parallelepiped Tablets.

The compression type includes a cleaning material and a releasability conditioner material.

NIKALET ECR-T (TRANSFER TYPE)

ECR-T is Transfer type melamine based mold cleaner. The optimum cleaning material can be selected according to the epoxy molding compound and design of molding tool.

We can provide various size for cleaning based on epoxy molding compound.



Grade	CC	CL	GR
Property	Standard	High Ability	For Green Compound
Cure speed	Standard	Slow	Standard
Size	For Conventional Type Machine $\phi 40\text{mm}$ -50g. $\phi 48\text{mm}$ -75g. 55mm -90g For Auto Mold Type Machine $\phi 9.8\text{mm}$. $\phi 11\text{mm}$. 13mm . 14mm . 16mm . 18mm . 20mm		

Grade Property

CC Grade : Standard type.

CL Grade : High performance grade of slow cure type having high fluidity and high cleaning ability.

GR Grade : High function grade for green materials developed to solve the problem of mold contamination.

NIKALET ECR-C

(COMPRESSION TYPE)

NIKALET ECR-C is Compression type melamine based mold cleaner.



Appearance	White Ivory
Specific Density of Tablet	1.0g-1.3g/cm ³
Specific Gravity of Molded Cleaner	1.4-1.6
Flow	80-100mm ^{a)}
Hardness after Curing	>70 ^{b)}
Application	Runner Gate, Cavity, Air-vent, Parting-area

a) Analyzed by JIS K6911 method

b) Analyzed using Shore-hardness Meter D (Mold temp., 170 °C Molding pressure, 6.9Mpa)
Size : 73mm(L)×38mm(W)×7mm(H) Weight : 20g

NIKALET ECR-C KU

(CONDITIONER)

NIKALET ECR-C KU is Compression type melamine based mold conditioner.



Appearance	Light Ivory
Specific Density of Tablet	1.0g-1.3g/cm ³
Specific Gravity of Molded Cleaner	1.4-1.6
Flow	90-100mm ^{a)}
Hardness after Curing	>70 ^{b)}
Application	Runner Gate, Cavity, Air-vent, Parting-area

a) Analyzed by JIS K6911 method

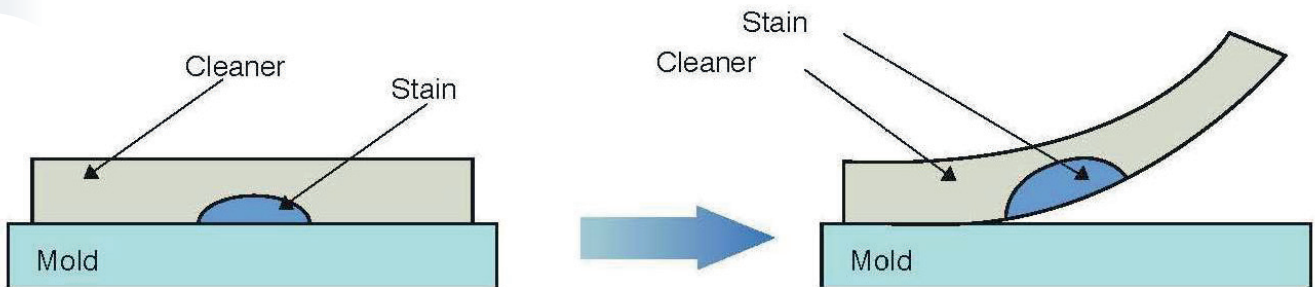
b) Analyzed using Shore-hardness Meter D (Mold temp., 170 °C Molding pressure, 6.9Mpa)
Size : 73mm(L)×38mm(W)×7mm(H) Weight : 20g

THREE

Cleaning Effects:

01

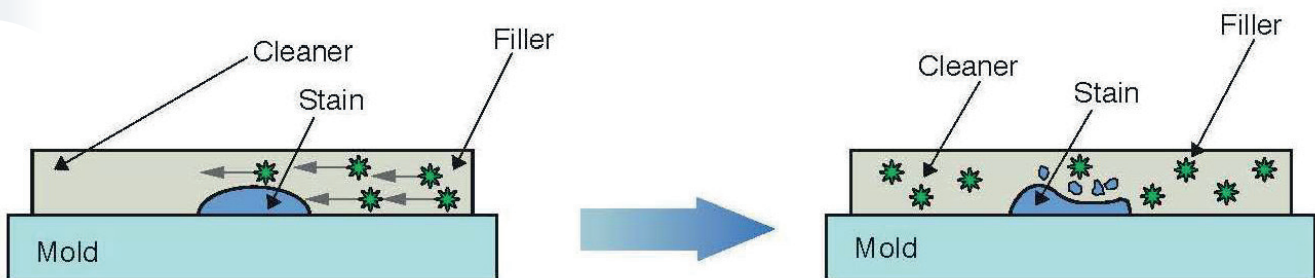
ADHESION EFFECT



- ◆ Cleaner adheres to the stain and peels it off from the surface of mold.

02

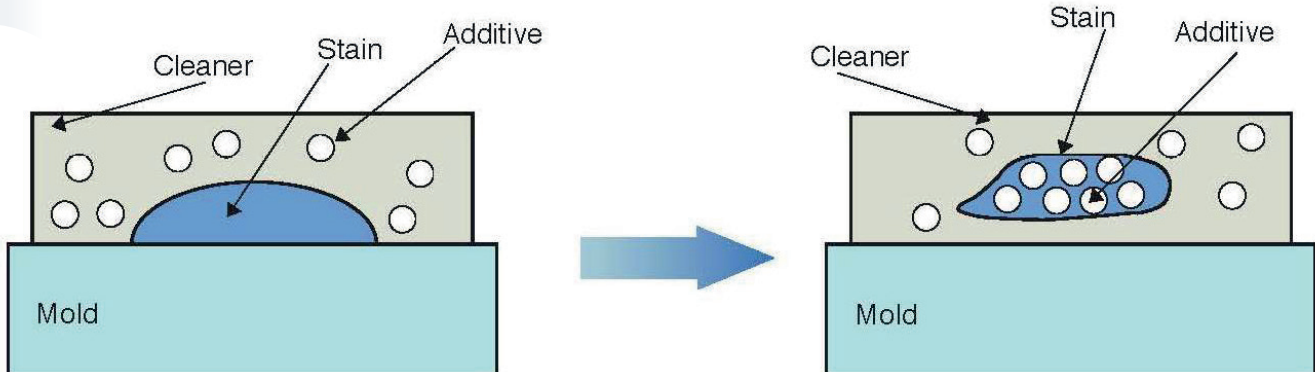
GRINDING EFFECT



- ◆ Filler in the cleaner grinds the stain off.

03

PENETRATING EFFECT



- ◆ Additives in the cleaner penetrate into the stain and swell it.
- ◆ The phase boundary force between the stain and mold is reduced and the stain is removed with the cleaner.
- ◆ The cleaning ability is augmented by the combination with adhesion effect of A.

NIKALET RCC

(RUBBER TYPE CLEANER)



The cleaning sheet NIKALET RCC is a rubber type mold cleaner for the removal of mold stains which accumulates during the molding of epoxy for encapsulation of semiconductors such as integrated circuits, diodes, transistors, etc.

	ID	IE
Appearance	white	white
Specific Gravity	1.1-1.2	1.1-1.2
Molding Method	compression	compression
Viscosity ¹⁾ M	45-55	75-85
Releasability ²⁾ 1-5	4	5
Odor ³⁾ 1-5	4	4
Expansion ⁴⁾ mm	90-110	

- 1) Viscosity : Mooney Viscometer SMV-300RT(SHIMADZU) , Temp : 100 °C Mooney time 4min, Rotor Speed 2.0rpm, Preheat Time 1min
 2) Releasability : It evaluated by five stages. 5th is easy remove.
 3) Odor : It evaluated by five stages. 1st is few smell, 5th is strong odor.
 4) Evaluation method :
 Disk flow, Sample size ϕ 36mm, 7mm (thickness), Temp : 175 °C Clamping pressure: 30kg/cm², Cure time : 300sec

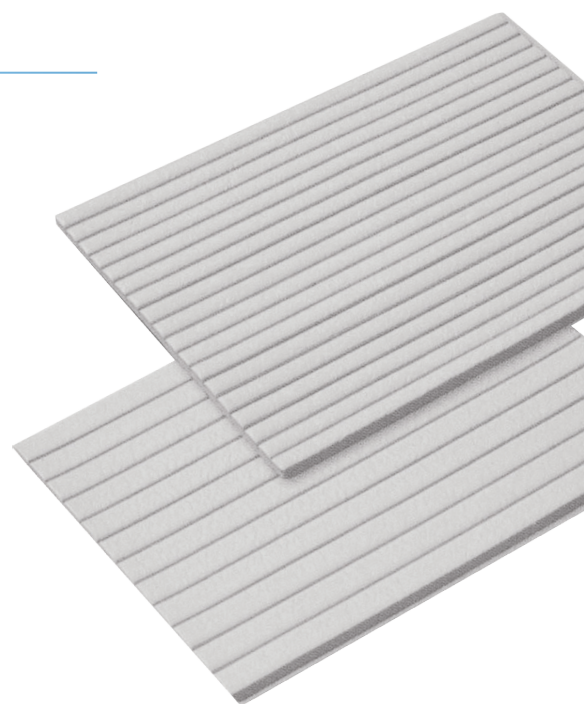
NIKALET RCC

(RUBBER TYPE CONDITIONER)

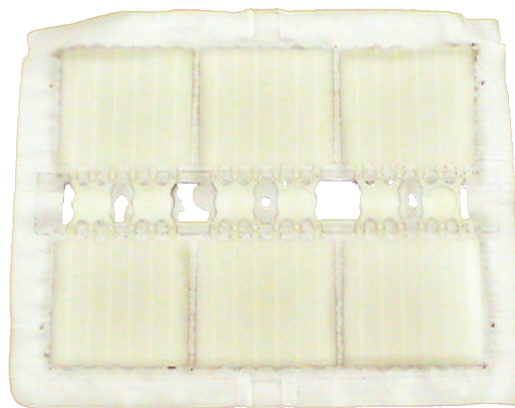
The rubber type conditioner is a mold conditioning compound for the mold dies after cleaning process in molding for EMC encapsulations of semiconductors.

	LI
Appearance	grey
Specific Gravity	1.0-1.1
Molding Method	compression
Viscosity ¹⁾ M	70-85
Releasability ²⁾ 1-5	4
Odor ³⁾ 1-5	3
Expansion ⁴⁾ mm	90-110

- 1) Viscosity : Mooney Viscometer SMV-300RT(SHIMADZU), Temp : 100 °C Mooney time 4min, Rotor Speed 2.0rpm, Preheat Time 1min
 2) Releasability : It evaluated by five stages. 5th is easy remove.
 3) Odor : It evaluated by five stages. 1st is few smell, 5th is strong odor
 4) Evaluation method :
 Disk flow, Sample size ϕ 36mm, 7mm (thickness), Temp : 175 °C , Clamping pressure: 30kg/cm², Cure time : 300sec



MOLDING LINER

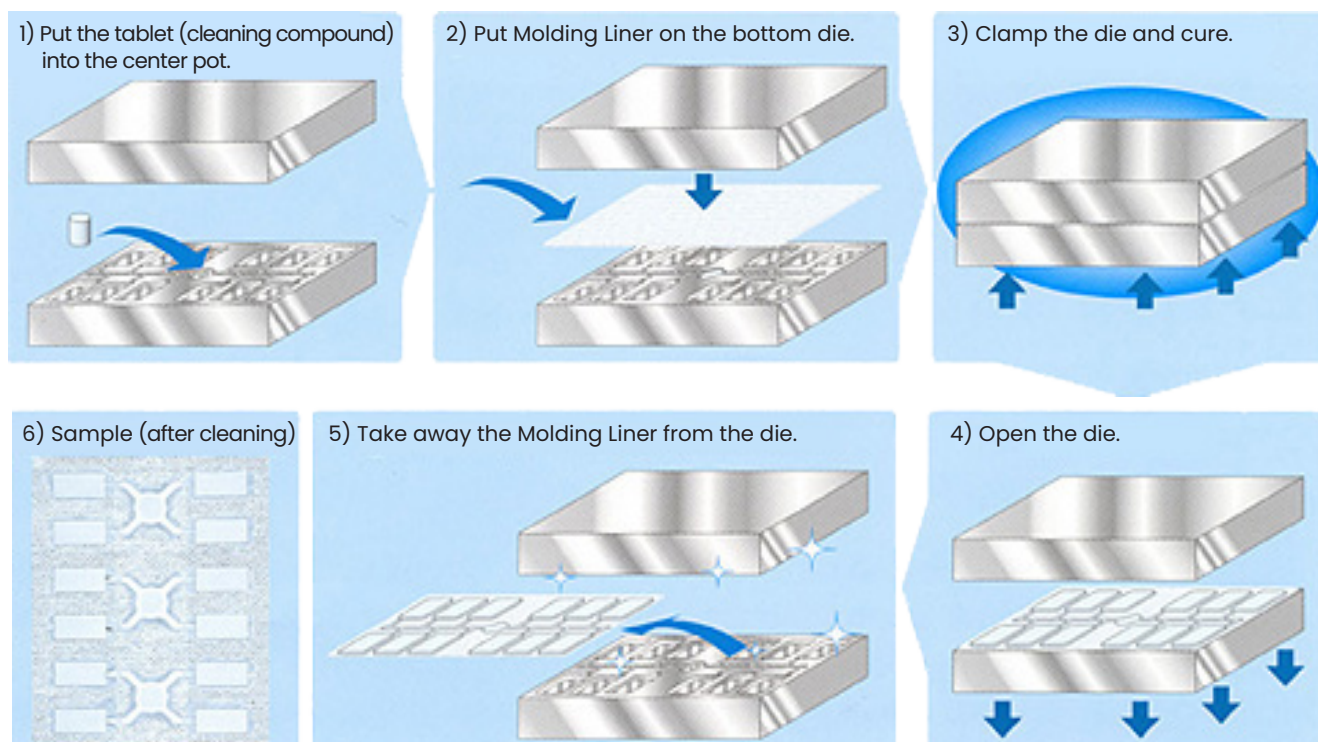


CHARACTERISTICS OF MOLDING LINER

Cost reduction	One sheet will be equivalent with 2 dummy frames or substrates
Time saving	Reduce handling time for cleaning process
Cleaning effect	Cleaning cavity, air-vent, gate, etc
Process simplification	One sheet approximate placement only
Easy disposal	No separation into frame and compound
Standardization	One size can be used for different designed die sets
Unskilled	Minimal scraping of remaining compound

HOW TO USE

This sheet can be used without dummy frame, typically will not require change of condition for cleaning process.



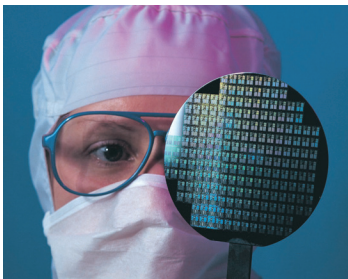
Specification	Article No	Weight (g/m ²)	Thickness (mm)	Mesh	DRY (N/50mm) Tensile Strength (dry-N50mm)		DRY (%) Breaking Elongation (Dry. %)	
					M.D	C.D	M.D	C.D
Thin Type	PO500	50	0.2	-	57.34	24.89	4.6	6.1
Standard Type	BA839	82.5	0.47	90	118.03	38.29	27.3	93.9

DETERGENT



RBS aqueous detergents perform as well as or better than solvent cleaning agents in removing residues without the harmful environmental side effects.

RBS cleaning solutions are suitable for various high performance cleaning processes in precision manufacturing of glass, plastics, metal parts, electronics, ceramics, optics, medical devices. It can be easily rinsed off residues free.



ELECTRONIC / SEMICONDUCTORS

Cleaning electronic component, circuit board, assemblies, screens, parts, ceramic insulators & components, silicon wafer, mold dies and cavities

Mild alkaline grades

Manual, ultrasonic cleaning, soak 1-2%; 50-60°C



GLASS / OPTIC

Cleaning flat glass, optics & lenses, glass sheet, quartz

Mild alkaline low foam grades

Part washer, power wash, spraying, brush system 1-2%; 45-60°C



METAL WORKING

Cleaning stainless steel parts, chrome steel ...
Low concentration, temperature and short contact time are recommended for soft metals.

Alkaline grades

Manual, soak, circulation 0.5-2%; 40-70°C



PLASTIC

Cleaning parts and surfaces made of resistant plastics.
Not recommended for polycarbonate (PC).

Alkaline low foam grades

Spraying, part washer 0.5-1%; 45-60°C

**Kindly contact us for further information.*

Removal of conductive residues, resins, rosins, fluxes, particulates, greases, oils, silicon oils, heavy fatty residues, cutting fluids, mold release agents, buffing compounds, waxes, polishing slurries, epoxy and organic residues.

RBS DETERGENTS FOR LABORATORIES

Solutions that meet all needs

- Highly alkaline cleaning agents.
- Neutral cleaning agents.
- Acidic cleaning agents.

Manual and Ultrasonic processing



RBS T 105

Alkaline cleaning agent with high wetting, emulsifying and dispersing properties



RBS T 115

Phosphate free alkaline cleaning agent. Suitable for use in laboratories which perform water analysis (analysis of phosphorous and phosphates).



RBS T 230

Neutral cleaning agent for manual and ultrasonic cleaning. High emulsifying and dispersing properties.



RBS T 305

Acidic cleaning agent based on phosphoric acid for manual and ultrasonic cleaning. Provides original aspect and brightness to cleaned surfaces.



RBS 50 PF

Phosphate free mild alkaline no foam cleaning agent. Surfactant free. Ensures effective cleaning of glassware and laboratory equipment.



RBS A 156

Phosphate free highly alkaline no foam cleaning agent. Surfactant free. Provides high detergency power for efficient cleaning in labwasher.



RBS A 285 SOLID PF

Phosphate free alkaline cleaning agent in powder form. Provides the necessary emulsifying, dispersing and wetting properties for effective cleaning in labwasher.



RBS A 375

Acidic solution based on citric acid. Recommended for use in the neutralising cycle after the main alkaline washing cycle with RBS 50 pF or RBS A 156.

RBS A 261

Caustic alkali free weakly alkaline cleaning agent for use in labwashers.

DESICCANT

Dou Yee supply a wide range of desiccant in various packaging materials to suit your requirements in protecting your goods against corrosion, rust and device malfunctions caused by humidity and moisture damage.



Bentonite Clay



Silica Gel



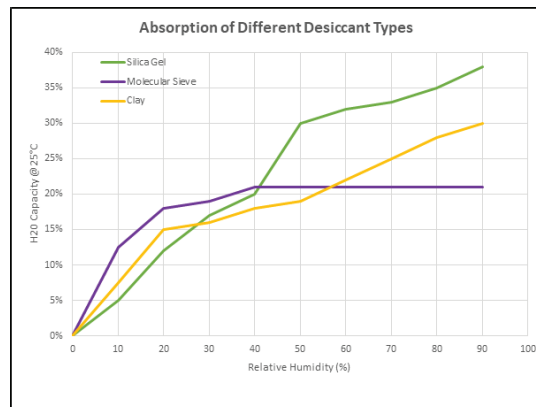
Molecular Sieve

Dou Yee is able to offer desiccant bags that meets industry specifications including:

- JEDEC J-STD-033 for semiconductor dry packing application
- Relevant U.S. FDA certification for use in food & drug applications

DOU YEE'S DESICCANT TYPES:

- Sieve Pak™ (Molecular Sieve)
- Silica Gel
- Bentonite Clay
- HI-DRY (High Performance Desiccant)
- Activated Alumina (Upon Request)
- Activated Carbon (Upon Request)

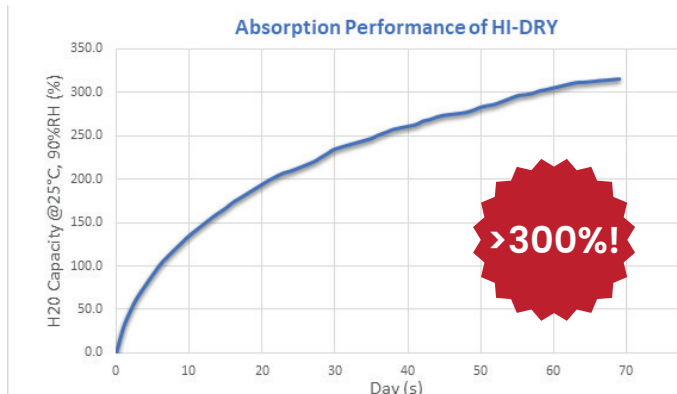


Graph 1: Equilibrium Capacity (H₂O) of Silica Gel, Molecular Sieve and Clay Desiccant.

DOU YEE HI-DRY

(HIGH PERFORMANCE DESICCANT)

Dou Yee HI-DRY Desiccant uses a highly efficient super-absorbent with catalyst which absorbs more than 300% of its own weight. With a tough breathable membrane, it prevents any possibility of leakage at saturation



Graph 2: Absorption Performance of HI-DRY

PACKAGING MATERIALS

Desiccant are bagged into a variety of ideal suitable packaging materials depending on your requirements.

- DuPont™ Tyvek®
- Non-Woven Fabric
- Non-Woven Laminated Film
- Oriented Polypropylene (OPP) Film
- Translucent Static Shielding Film
- Other Customized Desiccant Packaging Film



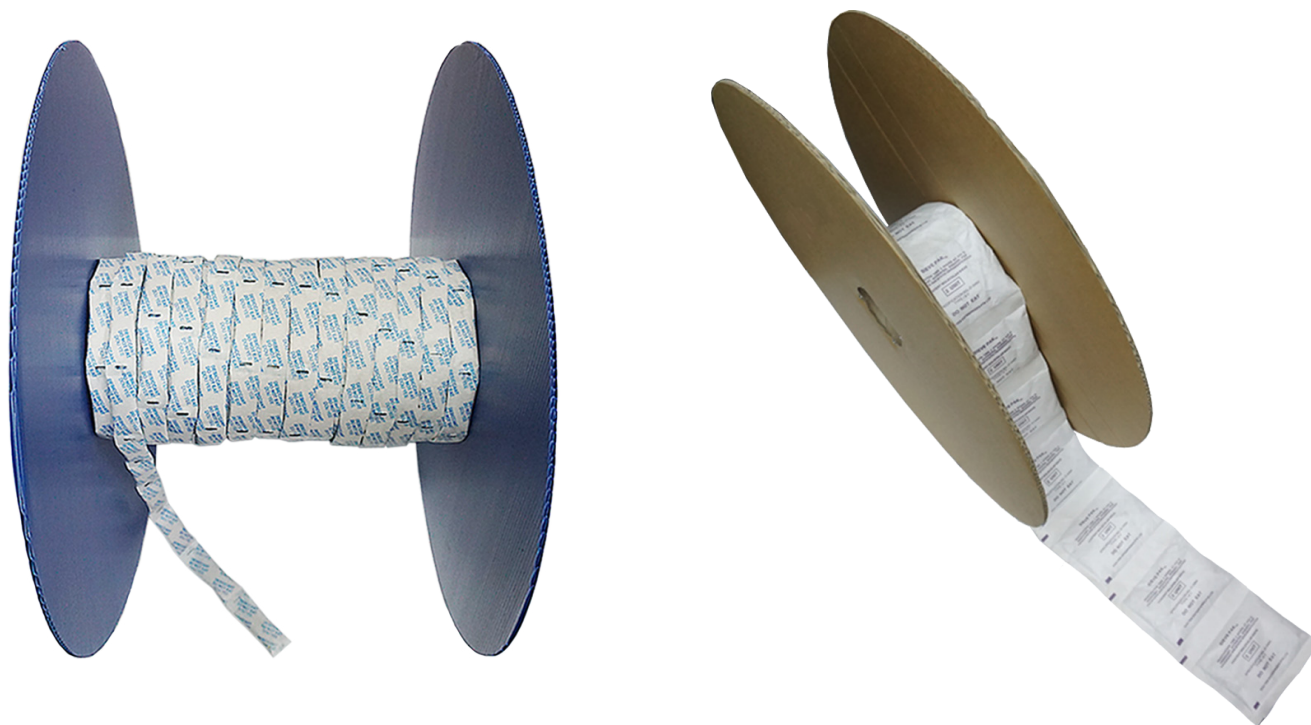
DESICCANT

FOR AUTO-PACKING

With the current trend of automation in manufacturing capabilities, there is an improvement in automation technologies. By introducing self-optimization, self-configuration and self-diagnosis system, businesses are creating intelligent networks along the entire value chain. This can control each other autonomously.

Automating desiccant results in decreased in production times and increasing manufacturing efficiency. Therefore, it is necessary for a customization of our desiccant product to fit with our customer's automation.

DOU YEE with the collaboration of several customers have developed our customised desiccant in spool/reel form. Spool design will be based on the desiccants bag size. The quantities of the pouches in a spool will be defined by the total weight that the spool can withstand and most importantly practicability handling by operators.



Type of Detection	Eye-mark or Punched Hole Detection	
Type of Flange Material	Corrugated Material (Blue/Black)	
Standard Flange Diameter	Ø 18" or Ø 20"	
Standard Thickness of Flange	4mm - 8mm	
Standard Weight of Flange	650gsm, 1700gsm	
Standard Type of Core	Paper Core	Plastic Core
Standard Core Diameter	ID: 76.2mm, OD: 106.2mm	ID: 76.2mm, OD: 82.0mm
	ID: 78.5mm, OD: 98.5mm	

CONTAINER DESICCANT HI-DRY

Dou Yee HI-DRY High Performance Desiccant uses super absorbent with catalyst.

It is a highly efficient super-absorbent packed in a strong, tough breathable film. When the desiccant absorbed moisture, it turns into a gel eliminating any possibility of leakage at saturation.

Dou Yee HI-DRY has a high absorption capacity which is able to absorb **250%-350%** of its own weight depending on the formulation.

Dou Yee HI-DRY is highly suitable for bulk packaging and long distance shipment where humidity levels fluctuate irregularly.



HI-DRY	Silica Gel
25°C ; 90% RH	
250%-350%	30%-35%



VARIETY OF APPLICATIONS

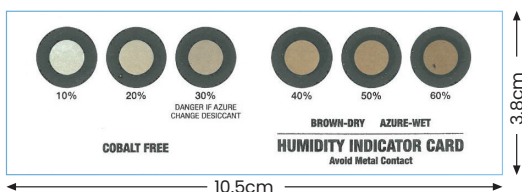
Industrial / Electronic	Automotive, Home Appliances
Transportation / Distribution	Point to point Inland Transport, Container Storage
Home	Mildew-proofing for Closet, Drawer and Shoe Box



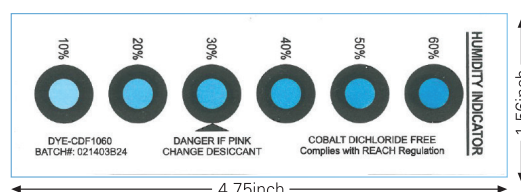
HUMIDITY INDICATOR CARD

Humidity Indicator card are used in dry packing for detecting the humidity level in the dry packed environment. The indicating spots on the card are impregnated with a moisture sensitive chemical which will change color upon absorbing moisture.

Our new range of humidity indicator cards are carcinogen-free. The indicating spots contain a proprietary chemical which, in the dry state is brown in color. Upon absorbing moisture, the target brown color spot changes to azure. Specifications will be provided upon request.



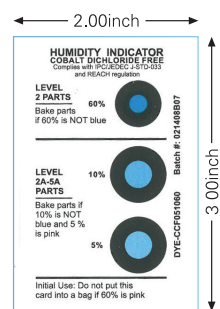
Description	Characteristics
Indicates	10%, 20%, 30%, 40%, 50%, 60% relative humidity
Material	Blotting Paper
Dimensions	10.5cm x 3.8cm
Indicating Spots	5%, 10%, 60% (Left to Right)
Printing	Heavy Black On White
Packaging	200 pcs per pint can
Approx. Shipping Weight	20oz. per can
Standards	Meets Mil-1-8835 & REACH Regulation



Description	Characteristics
Indicates	10%, 20%, 30%, 40%, 50%, 60% relative humidity
Material	Blotting Paper
Dimensions	1.56 inch x 4.75 inch
Indicating Spots	10% - 60% RH
Printing	Heavy Black On White
Packaging	200 pcs per pint can
Approx. Shipping Weight	20oz. per can
Standards	Meets Mil-1-8835



Description	Characteristics
Indicates	5%, 10%, 60% relative humidity
Material	Blotting Paper
Dimensions	5.4cm x 3.8cm
Indicating Spots	5%, 10%, 60% (Left to Right)
Printing	Heavy Black On White
Packaging	200 pcs / MBB / CAN
Approx. Shipping Weight	15oz / MBB
Standards	Meets JEDEC J-STD-033 & REACH Regulation



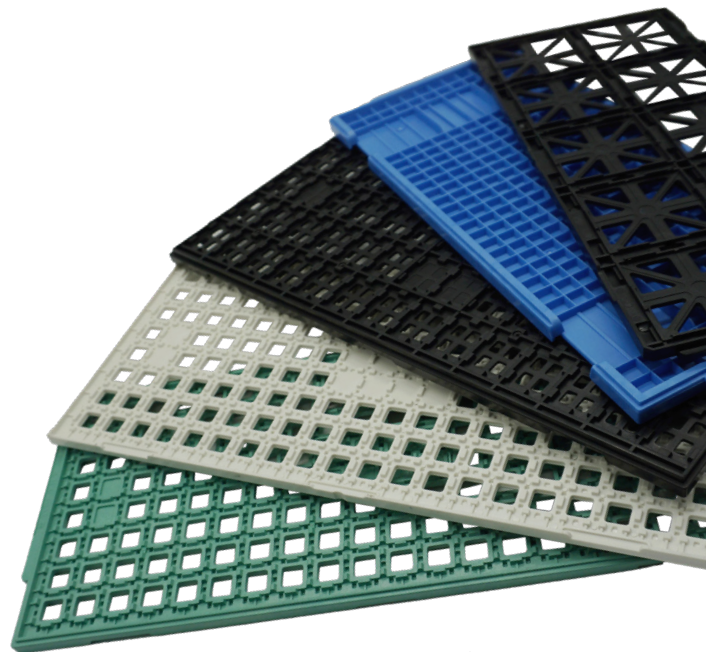
Description	Characteristics
Indicates	5%, 10%, 60% relative humidity
Material	Blotting Paper
Dimensions	2.00 inch x 3.00 inch
Indicating Spots	60%, 10%, 5% (Top to Bottom)
Printing	Heavy Black On White
Packaging	125 pcs per pint can
Approx. Shipping Weight	8oz . per can
Standards	Meets JEDEC J-STD-033

IC TRAY

With many years of design, manufacturing experience in the field of IC trays, we have produced a full range of JEDEC styled trays for many customers who specialize in semiconductor packaging and test.

We are committed to the development and design of the most advanced IC trays. Our company is equipped with advanced mold processing, injection molding equipment and a variety of testing equipment to ensure product quality. Trays designed and manufactured by us could provide IC and IC module with completely different electrostatic level protection. A number of materials can be selected to meet customer's temperature-resistant baking requirements.

- ◆ Designs conforms JEDEC international standard, and has strong versatility.
- ◆ Optimal product design, can provide a variety of packaging IC with protection and while reducing transportation costs.
- ◆ V type tray designs, with added protection for IC substrate edge ball placement.
- ◆ A variety of materials for customers to choose from to meet your ESD and process requirements.
- ◆ Support for non-standard format customization.
- ◆ BGA, QFN, QFP, PGA, TQFP, LQFP, SoC SiP etc. All packaging methods are available. Can be customized based on customers requirement. (e.g: ESD property, Baking Temp, Baking Time)



IC TRAY

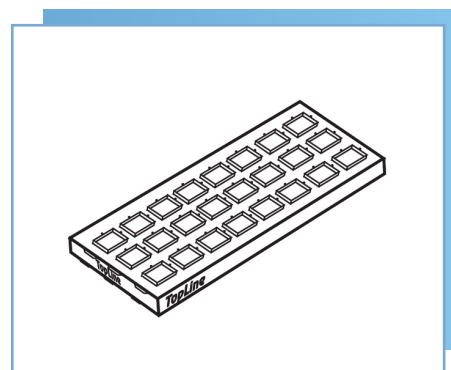
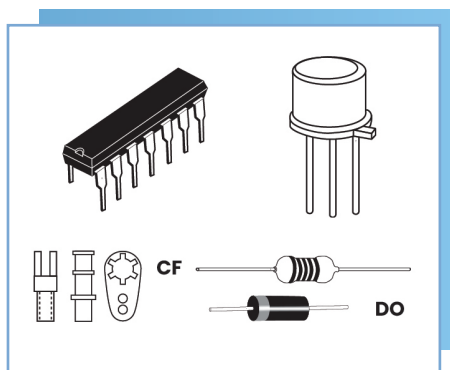
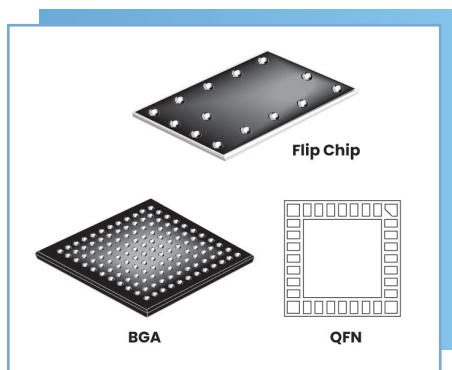
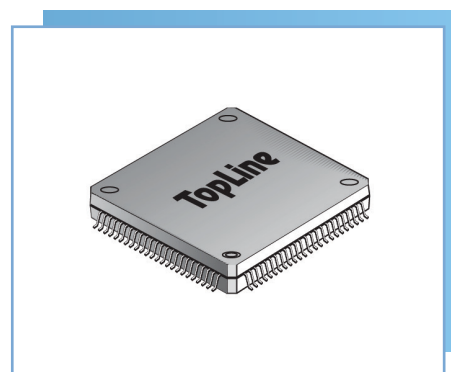
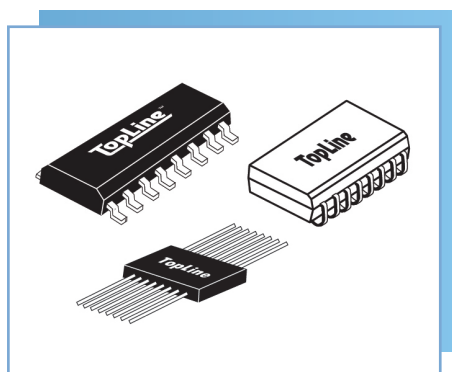
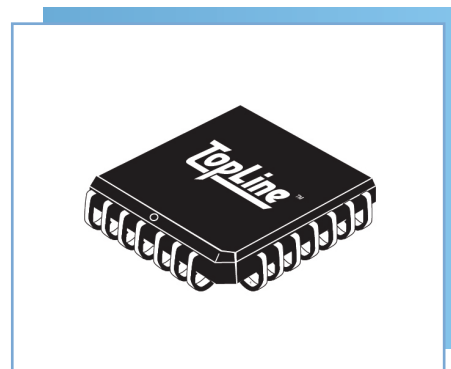
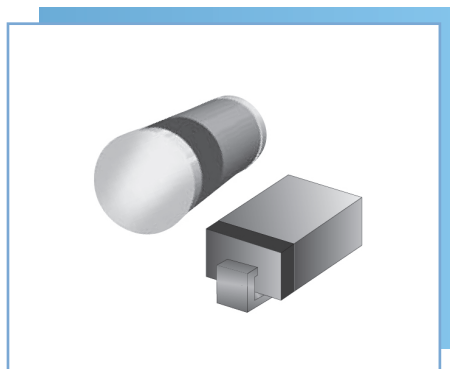
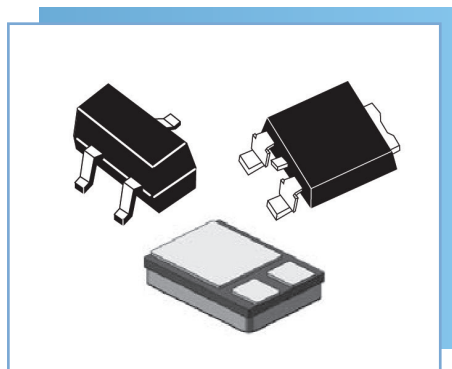
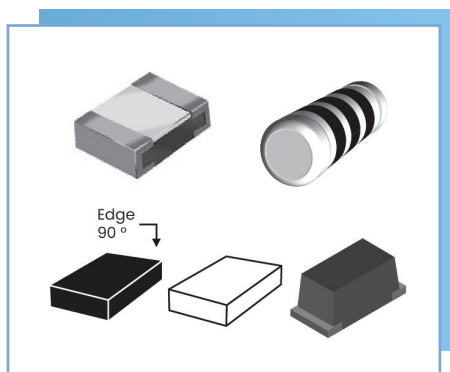
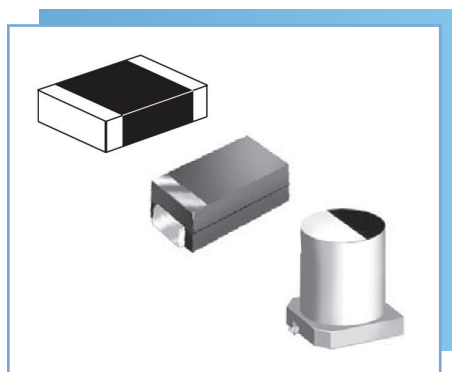
Material	Bake Temp	Surface Resistance
MPPO + Carbon Fiber	125 °C - 150 °C Max	10E4 Ω - 10E11 Ω
MPPO + Carbon Powder	125 °C - 150 °C Max	10E4 Ω - 10E11 Ω
MPPO + Glass Fiber	125 °C - 150 °C Max	10E4 Ω - 10E11 Ω
PEI + Carbon Fiber	180 °C Max	10E4 Ω - 10E11 Ω
IDP Color	85 °C Max	10E6 Ω - 10E10 Ω



TopLine manufactures Daisy Chain test components, zero ohm PCB jumpers and engineering evaluation kits for experimentation. We make vibration dampers to extend the life of PCB assemblies and CCGA Column Grid Array to reduce stress caused by extreme thermal CTE mismatch.

Find out more at www.topline.tv

SERIES VIEW





EQUIPMENT

End of Line

Tools & Equipment

TRANSFER MOLD

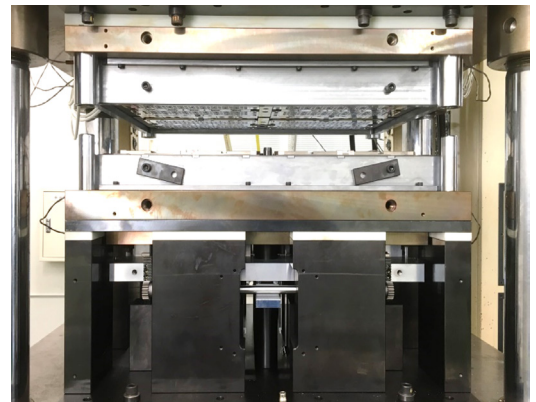
The key strength of TAKARA is the development capability for mold and molding equipment. TAKARA can manufacture mold for various kind / types of Sensor packages and SEMICON transfer molding.



CONVENTIONAL MOLD DIE



MGP MOLD DIE



TRANSFER MOLD SYSTEM

TAKARA has various configurations of system equipment, like R&D and mass production. Fully customizable to meet your product requirements with add on options, such as auto-taping system, auto release agent spray system or high-level vacuum system. To deliver your quality needs.

TRIM & FORM DIE

TAKARA has strength and capability in trim & form die for short pitch package and different types of Sensors, even for some with special pin forms, TAKARA also able to ensure trim/form without inducing stress on the molded package.

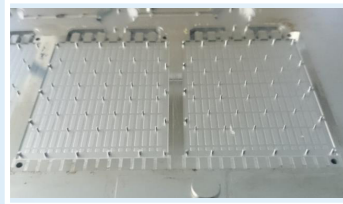
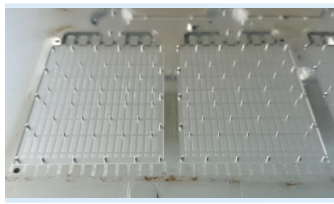
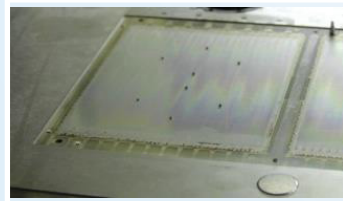
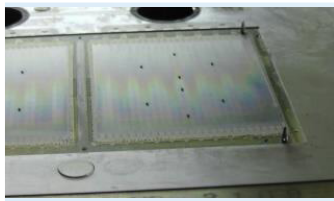


STAMPING DIE

The quality of lead frame plays an important role in overall product quality. TAKARA can produce high quality of lead frame, and recommend lead frame layout and advise to client concerning post processes (Molding, Trim & Form and singulation).

High Release

FC Treatment



H-CR

FC

A LONG WEARING SURFACE TREATMENT FOR GREEN COMPOUND

In spite of the fact that Epoxy is still the mainstream of molding material, considering environmental awareness, the needs of green compounds has been increasing day by day.

According to the poor release condition of Green Compound cause long delays and increases the Cycle time, TAKARA recommended FC surface coating. It's not only can keep the equal roughness level to H-Cr, but also improve release condition. As a consequence, the total productivity would be improved.

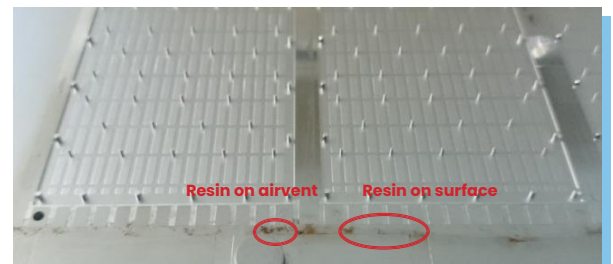
FC FEATURES

- ◆ Surface roughness level is equal to H-CR (Can also apply Satin~ mirror surface)
- ◆ Improve 50% releasing performance
- ◆ Surface hardness : 1100~1200HV
- ◆ Wetting angle ~ 105°

COMPARISON

- ◆ Reduce cleaning frequency around 32%
- ◆ Improve the total productivity around 3%

	H-CR	FC
Coating Hardness (HV)	800 - 1000	1100 - 1200
Thickness (μm)	3-5	2-5
Dynamic Friction Coefficient (μ)	0.9	0.25
Water Repellence Wetting Angle 1°	30	105



H-Cr (after 200 shots)



FC (after 300 shots)

EVALUATION TEST

Shot	Mold Surface Condition		Airvent Section	
	H-CR	FC	H-CR	FC
1	Good	Good	Good	Good
⋮				
200	Resin Adhesion		Resin Adhesion	
250		Good		Good

DICING SAW

MRS-DT/DS series dicing system includes full automatic dicing saw (twin spindle) and semi-auto dicing saw (single spindle), can be widely used in various wafers, ceramics, silicon wafers, glass and lithium niobate, also compatible with products of QFN, DFN and PCB in package sawing process, DFN and PCB, and has accurate positioning of high-definition images, automatic kerf check detection, blade breakage detection (BBD), NCS non-contact height measurement, cleaning, UV and other functions.



**Fully Automatic Dicing Saw
(8-inch & 12-inch)**



**Semi-automatic
Single-spindle Dicing Saw
(8-inch & 12-inch)**



**Semi-automatic
Single-spindle Dicing Saw
(4-inch & 6-inch)**

ADVANTAGES

- Comply with international standards.
- High-precision design.
- Mainstream 8-inch & 12-inch ceramic table.
- Friendly user interface.
- UPH: High throughput.
- NCS: Non contact setup.
- Flexible customization.

MAIN Configuration

- Mainstream 8-inch & 12-inch ceramic table.
- Image recognition function, automatic alignment.
- Blade breakage detection (BBD) function.
- NCS: Non contact setup.
- Kerf check function, multi-work cutting selection system.

SiC LASER DICING MACHINE

MRS-ST series wafer laser dicing system for SiC, based on silicon carbide substrate, adopts ultra-fast laser precision micro-dicing process, which is a high-precision and high-efficiency laser dicing equipment. Customized laser systems are suitable to dice various transparent and brittle materials, e.g. silicon carbide, sapphire, silicon, glass and other materials, was widely used in semiconductor wafers (SiC), LED wafers (sapphire), IR filters (glass), etc.



ADVANTAGES

- Fully automatic and compatible 4/6 inch sheet in production.
- Picosecond laser is specially designed for SiC materials, make stable dicing effect.
- With FDC automatic focus following system, Real-time adjustment of dicing position, High precision, compatible with thickness deviation of $\pm 15\mu\text{m}$.
- IR camera, with functions of automatic focus, horizontal alignment, etc.
- Professional design of shock absorption, strong seismic resistance and high machine stability.
- Small footprint save space.



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