

Micro Contamination Control
@ C L E A N R O O M

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Certificate SG96/07721



Certificate SG02/54422

COMPANY PROFILE

DOU YEE ENTERPRISES is a world renowned total solution provider for electronics industries.

With ISO9001 and ISO14001 certified manufacturing plants in Singapore, Malaysia, China, France and Poland; more than 45 offices in the world. 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

- ▶ Micro Contamination Control
- ▶ Electrostatic Discharge Control
- ▶ Dry Packaging / Electronic Packaging Materials
- ▶ Electronic Equipment and Tools
- ▶ Bio Medical
- ▶ Chemicals for Electronics Industry
- ▶ Personal Protective Equipment
- ▶ Nano Composite Materials



Singapore HQ



Dou Yee Manufacturing



Dou Yee Suzhou



Eurostat, France



Eurostat, Poland

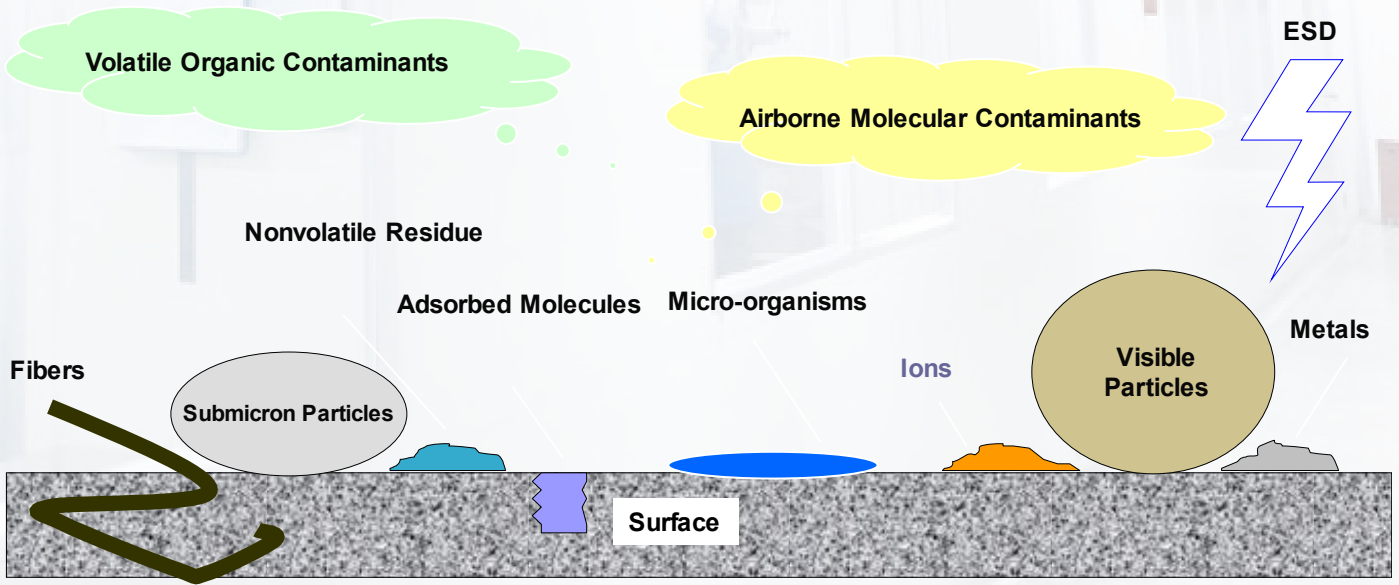
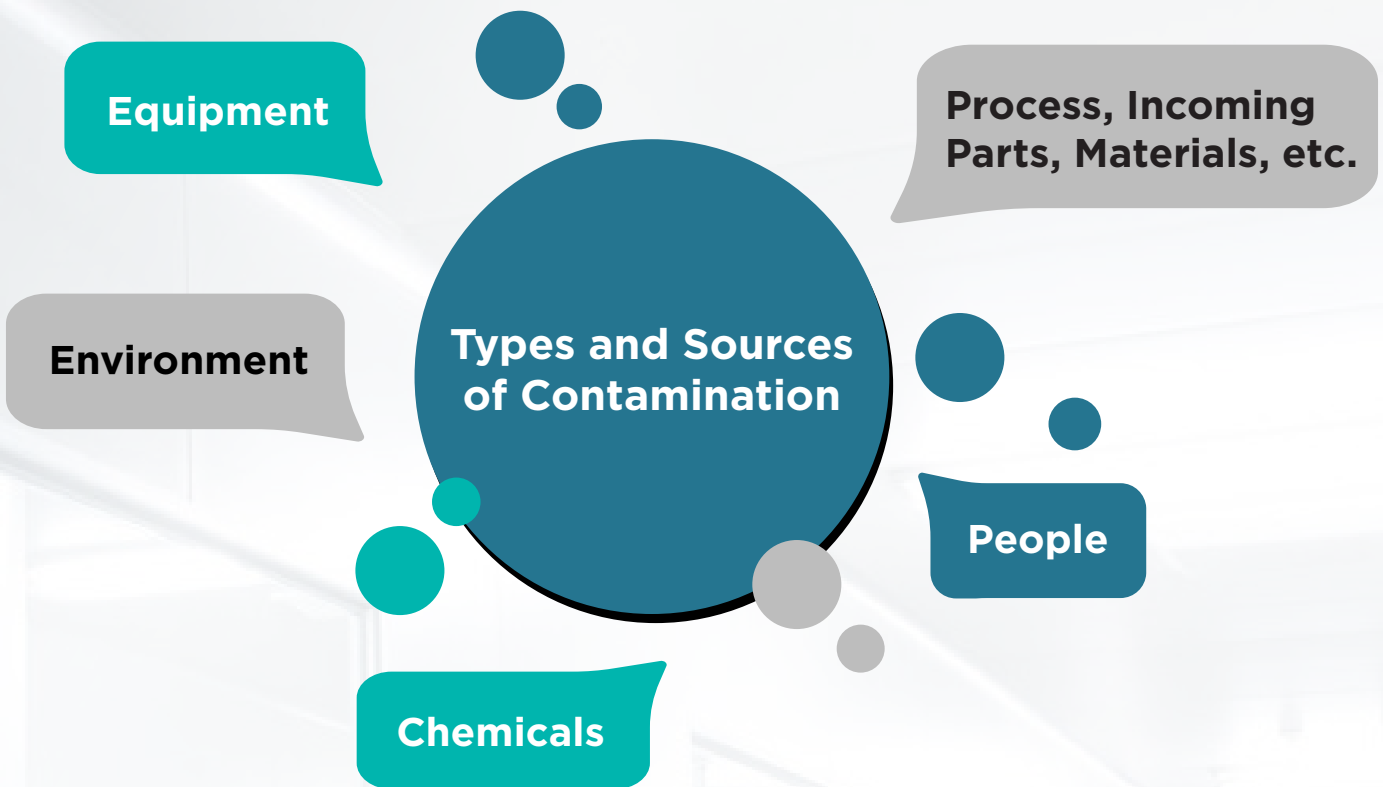
Cleanroom is a facility in which the air supply, air distribution, filtration of air supply, material of construction, and operating procedures are regulated to control airborne particle concentration to meet appropriate cleanliness levels defined by ISO 14644 (Formerly Federal Standard 209E).

CLEANROOM CLASSES - STANDARD COMPARISON

ISO Classification Number	Maximum concentration limits (particles/m ³ of air) for particles equal to and larger than sizes shown below						≈ Fed. Std 209E	≈ Fed. Std 209D
	0.1 μm	0.2 μm	0.3 μm	0.5 μm	1.0 μm	5.0 μm		
ISO Class 1	10	2						
ISO Class 2	100	24	10	4				
ISO Class 3	1,000	237	102	35	8		M1.5	Class 1
ISO Class 4	10,000	2,370	1,020	352	83		M2.5	Class 10
ISO Class 5	100,000	23,700	10,200	3,520	832	29	M3.5	Class 100
ISO Class 6	1,000,000	237,000	102,000	35,200	8,320	293	M4.5	Class 1,000
ISO Class 7				352,000	83,200	2,930	M5.5	Class 10,000
ISO Class 8				3,520,000	832,000	29,300	M6.5	Class 100,000
ISO Class 9				35,200,000	8,320,000	293,000	M7.5	

CONTROLLED MANUFACTURED AREAS

Classification	Typical Applications
Controlled Environments	<ul style="list-style-type: none"> • Pharmaceuticals • Research Laboratories • Food Grade Equipment
Class 100,000 to 10,000	<ul style="list-style-type: none"> • Printed Circuit Boards • Precision Metering Equipment • Pharmaceutical Fluids
Class 10,000 to 1,000	<ul style="list-style-type: none"> • Electronic Components • Medical Devices • Floppy Disks
Class 100 to 10	<ul style="list-style-type: none"> • Optics • Disk Drives • Semiconductor Networks
Class 10 to 1	<ul style="list-style-type: none"> • Semiconductor Fabrication • Thin Film Manipulation • Flat Panel Displays





Microlite Wipe

- 100% polyester.
- Economical choice of polyester wipes.
- Lint free.

Product code	Size	Packing
DYC100-01-DYCLEAN-MICROLITE-44	4" X 4"	600pcs/10pkts/ctn
DYC100-01-DYCLEAN-MICROLITE-99	9" X 9"	150pcs/10pkts/ctn

Micro Denier Wipe (Heavy Duty)

- Made of micro-thin fibers with highest degree of cleanliness.
- Superior moisture and oil absorbency.
- Non-abrasive.

Product code	Size	Packing
DYC100-01-DYCLEAN-MICRO-DENIER-HD-44	4" X 4"	400pcs/10pkts/ctn
DYC100-01-DYCLEAN-MICRO-DENIER-HD-99	9" X 9"	100pcs/10pkts/ctn

MicroWhite SD Wipe

- 100% polyester.
- Low extractable particles and metallic ions contaminants.
- Laundered by D.I. water.

Product code	Size	Packing
DYC100-01-DYCLEAN-MICROWHITE-SD-44	4" X 4"	600pcs/10pkts/ctn
DYC100-01-DYCLEAN-MICROWHITE-SD-99	9" X 9"	150pcs/10pkts/ctn



Non-Woven Micro Denier



- Made of continuous filament microfiber non-woven material, 80gsm.
- Economical choice of Micro Denier.

Product code	Size	Packing
DYC100-01-CLEANZE-NW-MICRO-FIBER-99	9" X 9"	100pcs/10pkts/ctn

ESD Wipe

- Knitted with carbon fiber.
- Superb for ESD-sensitive applications.

Product code	Size	Packing
DYC100-01-DYCLEAN-ESD-44	4" X 4"	300pcs/10pkts/ctn
DYC100-01-DYCLEAN-ESD-99	9" X 9"	150pcs/10pkts/ctn

PolyCell Wipe



- Woodpulp added to polyester foundation.
- Long fibers providing excellent absorbency.
- Minimal extractable and ionic contaminants
- Low static.

Product code	Size	Packing
DYC100-01-CLEANZE-EN-PCCELL-44	4" X 4"	1200pcs/10pkts/ctn
DYC100-01-CLEANZE-EN-PCCELL-99	9" X 9"	300pcs/10pkts/ctn

Non-woven Wipe



- Economic low lint wipes.
- Good water and oil absorbency.

Product code	Size	Packing
DYC100-01-CLEANZE-NW-2525	25cm X 25cm	100pcs/30pkts/ctn



Polka Dot Wipe



- Tough and durable.
- Easily absorbs oil and most solvents.
- Made of Polypropylene fibers which are highly chemical resistant.

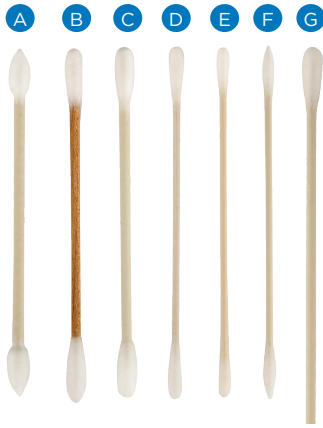
Product code	Size	Packing
DYC100-01-CLEANZE-POLKA-DOT-2930	29" X 30"	50pcs/10pkts/ctn

Magix SuperSorb Wipe

- Developed specially for wet cleaning application in the controlled environment.
- Super absorbent and hold water or liquid up to 18 times its own weight.
- Lint-free construction and resist shedding of particles due to abrasion.
- High density structure properties make it ideal for particle sensitive cleaning operations.

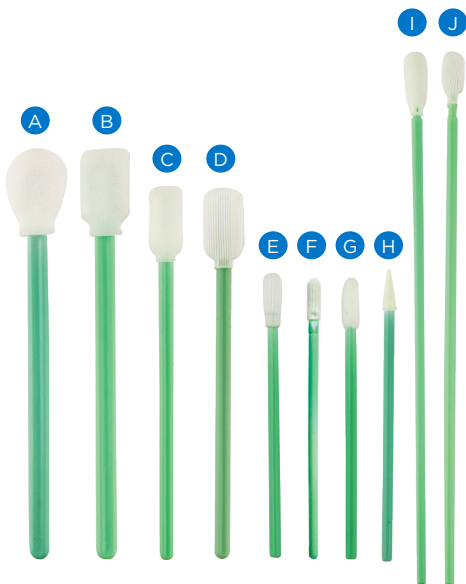


Product code	Size	Packing
DYC100-02-MAGIXSORB-230X230X2MM	9" X 9"	10pcs/20pkts/ctn



Cotton Swab

	Product code	Description	Tip Diameter
A	DYC110-02-3-PA-CTRH-B2	2 headed, 3" paper stem	Ø 4.7 mm
B	DYC110-02-3-W-RH-B	2 headed, 3" wooden stem	Ø 4.7 mm
C	DYC110-02-3-PA-TRH-B	2 headed, 3" paper stem	Ø 4.7 mm
D	DYC110-02-3-PA-RH-B	2 headed, 3" paper stem	Ø 3.6 mm
E	DYC110-02-3-PA-SH-B-WOB	2 headed, 3" paper stem	Ø 2.7 mm
F	DYC110-02-3-PA-VSH-B	2 headed, 3" paper stem	Ø 2.8 mm
G	DYC110-02-6-PA-TRH-B	1 headed, 6" paper stem	Ø 4.7 mm



Foam/Polyester Swab



	Product code	Description	Length	Tip Diameter
A	DYC110-08-132MM-708FS-FOAM	Foam	132mm	26 x 8 x 21
B	DYC110-08-131MM-707FS-FOAM	Foam	131mm	25 x 8 x 16
C	DYC110-08-126MM-712FS-FOAM	Foam	126mm	25 x 7 x 11
D	DYC110-08-128MM-714PS	Polyester	128mm	24 x 3 x 13
E	DYC110-08-70MM-743PS	Polyester	70mm	12 x 3.6 x 4
F	DYC110-08-70MM-758LPS	HD Polyester	70mm	10 x 2.2 x 3.2
G	DYC110-08-71MM-742FS-FOAM	Foam	71mm	12 x 3.5 x 3.6
H	DYC110-08-76MM-750FS-FOAM	Foam	76mm	10 x 3.2 x 3.2
I	DYC110-08-163MM-740FS-FOAM	Foam	163mm	18 x 5 x 6.8
J	DYC110-08-164MM-761PS	Polyester	164mm	18 x 5 x 6.8



Micro-Stick

- The head is made from micro-porous polyurethane foam and attached to a strong polypropylene stem mechanically without adhesive
- Extremely soft with ultra-low particle generation
- PP stem reusable and heads replaceable with spares

	Product code	Packing	Tip Diameter
A	DYC110-01-F5	100pcs / 40bags/ctn	Ø 5
B	DYC110-01-F8	100pcs / 24bags/ctn	Ø 8
C	DYC110-01-S5	100pcs / 40bags/ctn	Ø 5
D	DYC110-01-S8	100pcs / 24bags/ctn	Ø 8
E	DYC110-01-S3	200pcs / 40bags/ctn	Ø 3

Hairnet, Non-woven, 12G

- Made from spun bonded non-woven, thermally sealed waffle pattern PP
- Anti-fraying



Flat

Pleated

Product code	Size	Packing
DYC300-01-HAIRNET/BAG-DYCLEAN-12G	Flat	100pcs/10bags/ctn
DYC300-01-PLEATED-HAIRNET -DYCLEAN-12G	Pleated	100pcs/10pkts/ctn

Non-woven Facemask

dyCLEAN™

Product code	Description	Packing
DYC600-HH-03-R-PL-HL-DYCLEAN	3 ply, Head loop	50pcs/40pkts/ctn
DYC600-03-TO-DYCLEAN	3 ply, Tie on	50pcs/40pkts/ctn
DYC600-SF-CARBON MASK-4	4 ply, Carbon	50pcs/40boxes/ctn
DYC601-2P-PT20W-180NMNW-MT-2000	2 ply	50pcs/40pkts/ctn
DYC601-3P-PT20W-MB-180NMNW-MT-2000	3 ply (filtered), 180mm	50pcs/40pkts/ctn
DYC601-2P-CLEANZE-EL-SMOOTH	2-ply smooth fabric	50 pcs / 40 pkts / ctn
DYC601-3P-CLEANZE-EL-SMOOTH	3-ply smooth fabric	50 pcs / 40 pkts / ctn



Tie-on



Head-loop

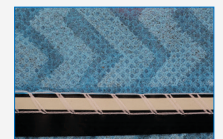


Carbon



Shoe Cover

CLEANZE™



Product code	Size	Packing
DYC300-10-1541-DSC-DYCLEAN-HD	CPE, 16"	100pcs/20bags/ctn
DYC300-10-NW-SC-BL-DYCLEAN-40G	Non-woven	100pcs/10bags/ctn
DYC300-10-1646-A/SLIP-NW-SC-BL-40G	Anti-slip, Non-woven, 18", Blue	100pcs/10bags/ctn
DYC300-10-NW-SC-CONDSTRIP-FILM-BL	Non-woven, Conductive strip, Blue	100pcs/10pkts/ctn

PVC Glove



- Powder-free
- Low ion contamination
- Anti-static
- Ideal for microelectronics process

Product code	Size	Packing
DYC200-01-9-CLEANZE-EN-S/M/L	9"/S,M,L	100pcs/10pkts/ctn
DYC200-01-12-CLEANZE-EN-S/M/L	12"/S,M,L	100pcs/10pkts/ctn



Latex Glove (Textured)



- Highly resistant to low concentration acid and alkalis, abrasion and tearing.
- Suitable for Class 100 or higher.
- Ideal for Cleanroom, disk-drive and related industries (HGA,HSA, etc.)

Product code	Size	Packing
DYC200-02-N-9-T-S/M/L	9"/S,M,L	100pcs/10pkts/ctn
DYC200-02-12-CLEANZE-T-S/M/L	12"/S,M,L	100pcs/10pkts/ctn



Nitrile Glove (Finger textured)



- Eliminates risk of latex allergy reaction
- Better chemical and abrasion resistance than latex gloves
- Low odour

Product code	Size	Packing
DYC200--93-01-9-CLEANZE-FT-S/M/L	9"/S,M,L	100pcs/10pkts/ctn
DYC200--93-01-12-CLEANZE-FT-S/M/L	12"/S,M,L	100pcs/10pkts/ctn



Nylon Tricot Glove

- 100% Nylon
- Soft and smooth
- Lint free

Product code	Size	Packing
DYC200-99-NT-S/M/L	S,M,L	12pcs/50doz/ctn



Anti-Static Lint Free Glove

- 100% polyester
- Made with continuous less-linting filament knitted with carbon fibre

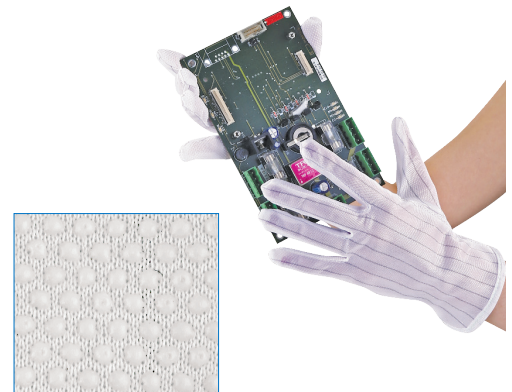
Product code	Size	Packing
DYC200-99-S/M/L	S,M,L	12prs/50doz/ctn



Conductive Glove with PVC dots on palm

- 100% polyester
- Anti-Static and lint free
- PVC dots on palm for better grip

Product code	Size	Packing
DYC200-99-PVC-S/M/L	S,M,L	12prs/50doz/ctn

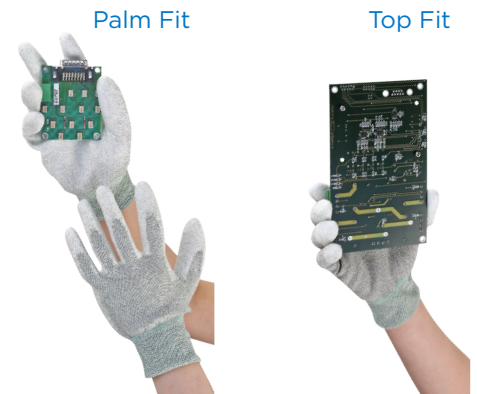


Conductive Glove (Palm fit / Top fit)

dyCLEAN™

- Easily absorbs oil and most solvents
- Made of Polypropylene fibres which are highly chemical resistant

Product code	Size	Packing
DYC200-PU-COND-PF-DYCLEAN	S/M/L	10prs/25pkts/ctn
DYC200-PU-COND-TF-DYCLEAN	S/M/L	10prs/25pkts/ctn



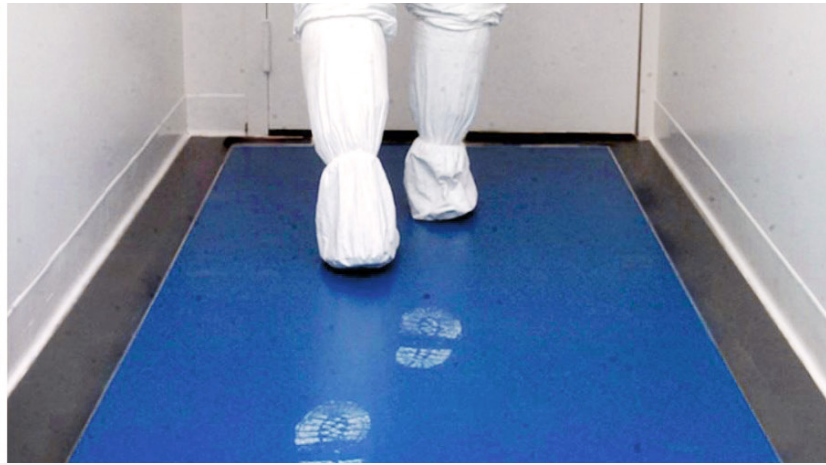
Glove (Palm fit / Top fit)

dyCLEAN™

- 100% Nylon
- Soft and smooth
- Lint free

Product code	Size	Packing
DYC200-99-NT-S/M/L	S,M,L	12pcs/50doz/ctn





Disposable Sticky Mat (Disposable), 30 Layers



- Removes contamination on shoes heels, soles and wheels



Product code	Size	Packing
DYC410-01-CLEANZE-BL-2436-10	Blue, 24" X 36"	30sheets/10mats/ctn
DYC410-01-CLEANZE-BL-2645-10	Blue, 26" X 45"	30sheets/10mats/ctn
DYC410-01-CLEANZE-WH-2436-10	White, 24" X 36"	30sheets/10mats/ctn
DYC410-01-CLEANZE-WH-2645-10	White, 26" X 45"	30sheets/10mats/ctn

Sticky Roller

- Tacky tape made from LDPE which is cushiony and guarantees noise-free entrapment of dust, dirt and lint.
- Perforated tape to ensure easy tear-off
- Roller tape is easy to replace.
- Colours: White and Clear
- Available in ESD version.



Handle

Size	80 or 160mm
Packing	10pcs/ctn



Refills

Size	80/100mm	160/200mm	300mm
Packing	200rolls/ctn	100rolls/ctn	50rolls/ctn

Cleanroom Tape



- Suitable for cleanroom use
- Available in multiple sizes
- 3 types with classification as below :



Antistatic Cellulose



Antistatic Vinyl Tape with ESD logo



Polyimide Tape

Product code	Description	Length	Width	Packing
DYC510-TK-CL500-WidthX50m	Antistatic Cellulose	50m	12.7, 19, 25mm	100rolls/ctn
			50, 75mm	50rolls/ctn
DYC510-TK-HCPAS174-WidthX33m	Antistatic Vinyl Tape with ESD logo	33m	12.7, 19, 25mm	60rolls/ctn
			50, 75mm	30rolls/ctn
DYC510-TK-YT130AS-WidthX33m	ESD Polyimide Tape	33m	9, 12.7, 16, 19, 25mm	60rolls/ctn
			50.8, 75mm	30rolls/ctn

Cleanroom Paper



- Dimensionally stable and compatible in both wet and dry copy system.
- Available in White, Blue, Yellow, Green, Pink, Orange, Violet and Light Orange.



Product code	Size	Packing
DYC500-10-WJ-Colour	A5 - 210mm x 148mm	250 sheets/pkt
	A4 - 210mm x 297mm	
	A3 - 420mm x 297mm	
	Letter Size - 216mm x 279mm	

FINGER COT

Discovery of rubber and vulcanization:

The word ‘Rubber’ was named by Joseph Priestly, a Chemist in England in 1770, after he accidentally rubbed of pencil marks with coagulated rubber. Natural Rubber (Latex) biggest breakthrough was through the Vulcanization process, which was discovered by Charles Goodyear in 1839. Vulcanization is a process which involves heating rubber with Sulphur, where the sulphur acts to retain and improve the rubber elasticity.

Vulcanization

Sulfide (Vulcanization) refers to a rubber material by intermolecular crosslinking raw rubber, which involved adding sulfur and heated sulfur retention and enhancing the role of the elasticity of rubber, vulcanized rubber properties is a process for improvement in this process , the linear structure of the macromolecules to generate a three-dimensional crosslinked network structure of the molecule, stable three-dimensional structure of the molecule, so that the rubber elasticity and strength properties, and many have been enhanced, is 10 times more than natural rubber.

Why is there powder in natural rubber finger cot?

Natural Rubber finger cots usually contain powder as natural rubber is very sticky. Talcum powder is thus added to prevent the cots from sticking together.

Chlorination Process:

Chlorination is required when high level of cleanliness is required for the finger cots. It eliminates any extra powder on the surface of the finger cots. However, to note that it increases occurrence of oxidation and corrosion against metallic content material during assembly.

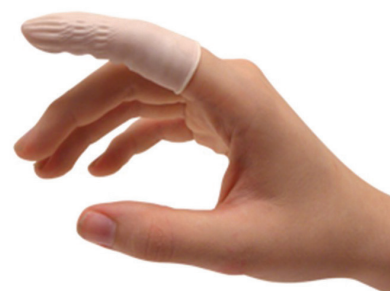


Powder-Free Finger Cot



- Designed to provide sensitive touch for work in electronics and other fields
- A proprietary “washed” process leaves no free radical reactive sites and low NVR
- Tapered design eliminates air space at tip
- Packed in a controlled environment

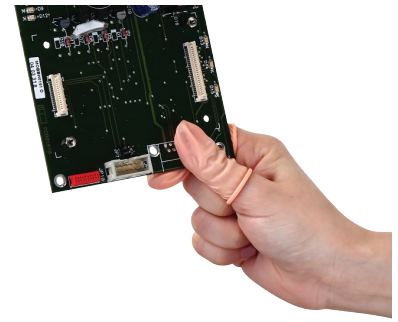
Product code	Type	Size	Packing
DYC800 02-06-CLEANZE-WHITE	Rolled	M,L	1440pcs/20bags/ctn



Antistatic Low Powder Finger Cot ,Pink

- Surface resistivity of 10⁹ - 10¹¹ ohm/sq
- Special washing process to reduce ionics, non-volatile resistance, particles and other contaminants

Product code	Type	Size	Packing
DYC800-01-PINK-AS-S/M/L	Rolled	S, M, L	1440pcs/20bags/ctn



Nitrile Finger Cot



- Static dissipative
- Chlorine and sulphur free
- Special washing process to reduce ionics, non-volatile resistance, particles and other contaminants

Product code	Type	Size	Packing
DYC800-01-CLEANZE-EDELEX-UR-S/M/L	Unrolled	S, M, L	1000pcs/20bags/ctn
DYC800-01-CLEANZE-EDELII-ROLLED-S/M/L	Rolled	S, M, L	1000pcs/20bags/ctn



Orange Finger Cot



- Low powder and heavy duty
- Reusable
- Cleanroom compatible
- Textured surface for good grip

Product code	Type	Size	Packing
DYC800-01-CLEANZE-MASK-OR-TH-S	Unrolled	S	300pcs/36bags/ctn
DYC800-01-CLEANZE-MASK-OR-TH-M	Unrolled	M	300pcs/30bags/ctn
DYC800-01-CLEANZE-MASK-OR-TH-L	Unrolled	L	300pcs/24bags/ctn



Spore Black E9, Smooth Surface, Rolled

- Surface resistivity of 10⁹ Ohm/square
- Conductive agents are blended with latex to provide consistent ESD performance.
- Anti-static function for ESD sensitive components
- Special washing process to reduce ionics, non-volatile resistance, particles and other contaminants

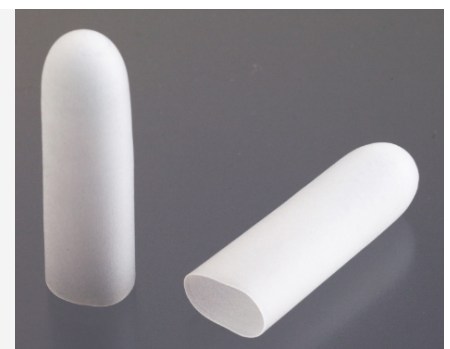
Product code	Type	Size	Packing
DYC800-SB-R-E9-S/M/L	Rolled	M,L	1440pcs/20bags/ctn



Spore Sulphur Free, Smooth surface, Cut

- Sulphur Free.
- Prevents contamination by sulphur on metal surfaces
- 100% pure natural rubber latex

Product code	Type	Size	Packing
DYC800-SS-C-S	Cut	S	1440pcs/20bags/ctn



TWEEZER

Conductive Plastic Tweezer

- Heat resistance up to 150 °C
- Scratch free
- ESD Safe
- High acid and alkali resistance

Product code	Packing
DYC900-02-NK35A	
DYC900-02-NK6	
DYC900-02-NK2A	10pcs/pkt
DYC900-02-NK7	
DYC900-02-NKR	



Composite Tweezer

- Aluminium body with replaceable ceramic tips
- Heat resistance, non-magnetic body with static dissipative tip
- Ideal for electronic equipment, semiconductors bionics and superconductivity-related equipment

Product code	Description
DYC900-CTW-ESDTO2	Composite tweezer with tip
DYC900-CTW-ESDTO2-TIP	Replaceable tip only



Premium Tweezer

- Stainless Steel
- ESD Safe
- High Heat and wear resistance



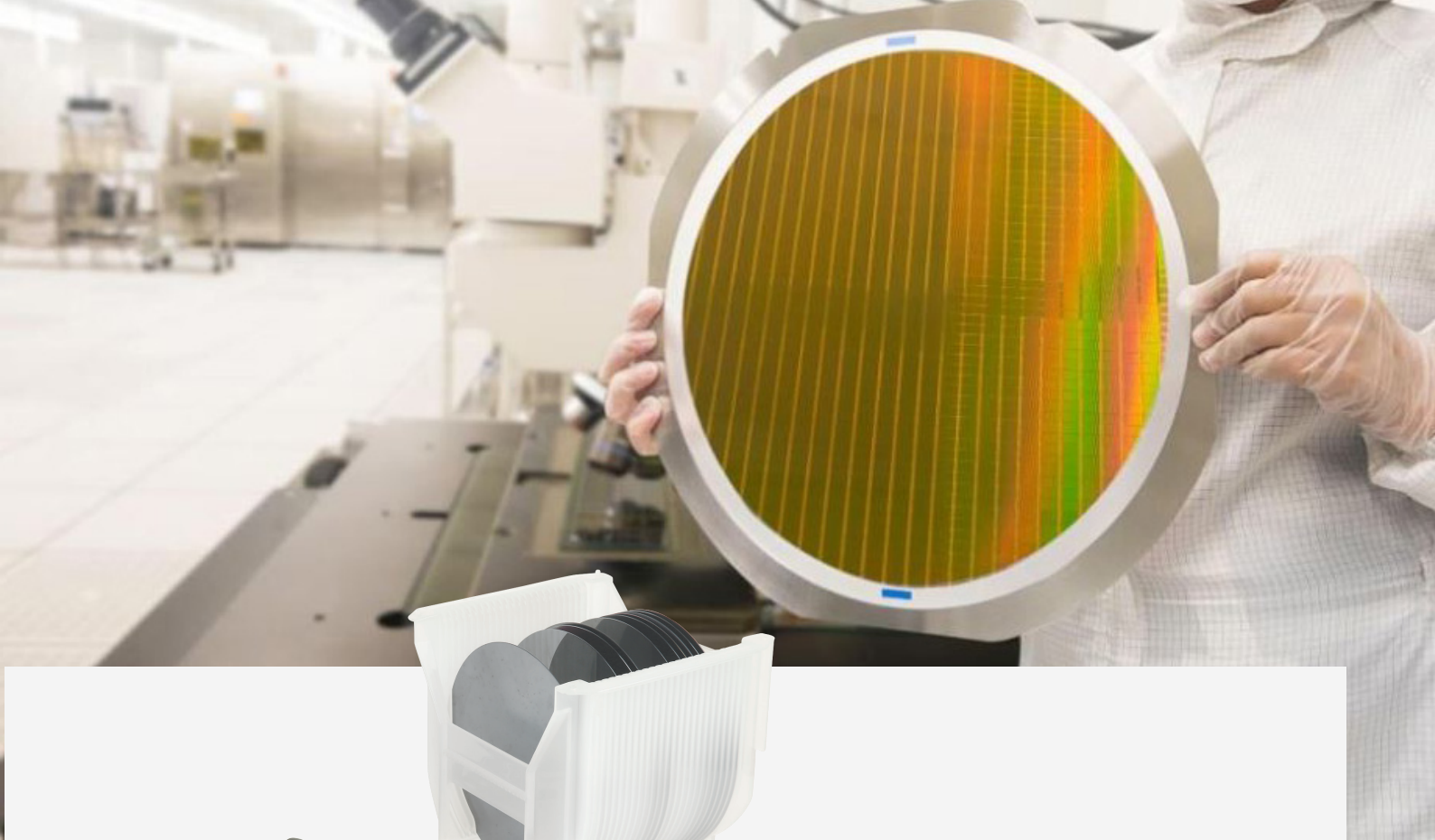
Product code	Packing
DYC900-08-EN-00	
DYC900-08-EN-2A	
DYC900-08-EN-3C	10pcs/pkt
DYC900-08-EN-AA	
DYC900-08-EN-SS	



Wafer Tweezer

Product code	Description
DYC900-SP-600W-SA	For up to 6" wafers with 6 prongs
DYC900-SP-T5508W-SA	For up to 8" wafers with Anti-fatigue level
DYC900-SP-500W-SA	For up to 5" wafers with 5 prongs
DYC900-SP-600A-SA	For up to 6" wafers
DYC900-SP-800A-SA	For up to 8" wafers





WAFER HANDLING SYSTEM

The use of clean organic materials, patented vacuum tip design and true ESD protection provides a unique system with the highest levels of cleanliness and safety.

All parts of Vacuum Handling System are interchangeable. They can be configured or upgraded to meet the specific end-user requirements.

- Manual solution for single wafer handling
- True ESD protection
- High impedance range (SD)
- Manufactured from clean organic materials
- Unique surface treatment provides roughness (0.3µm)
- Optical polishing of vacuum surface
- Vacuum wand normally open
- Patented raised vacuum surface to minimize contact
- Patented support ribs prevent wafer deformation
- Reinforced vacuum tube prevents vacuum loss

Product code	Description	Specifications
DYC950-02-EI14 EP-0	Peek tip for up to 5" wafers	PEEK + CF
DYC950-02-EI14 EP-30	Peek tip for up to 5" wafers, Ext 30 degree	PEEK +CF
DYC950-02-EI30 EP-0	Peek tip for up to 8" wafers	PEEK +CF
DYC950-02-EI30 EP-30	Peek tip for up to 8" wafers, , Ext 30 degree	PEEK +CF
DYC950-02-EI50 EP-0	Peek tip for up to 12" wafers	PEEK +CF
DYC950-02-SPCV	Vertical Wand Stand	PVDF
DYC950-02-VSNO-SD	Normally Open Wand	PVDF + CF
DYC950-02-CTS-SD-1/4SD	Coiled Vacuum Tube, ESD	Polyurethane

OTHER PRODUCTS

High Temp & Chemical Gloves



Gordon Brushes



PVA Products



Anti-con Wipes



Bemcot Wipes



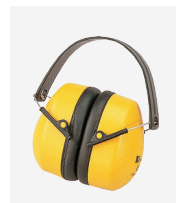
Handlaps



Stationeries



Protective Equipment



Vacuum Handling Tools



Pen -VAC

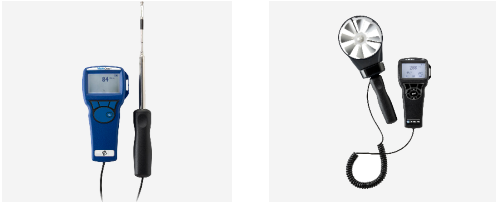


Tyvek Products



OTHER PRODUCTS

Multi-Functional Air Quality Meters



Aerosol & Particle Counters



Trolleys & Shelving



Vacuum Cleaners



Dry Cabinets



Facilities



Chairs



Wafer Transfer & Storage Machines



Others



More than **45** offices across
North America, Europe and Asia Pacific

- Manufacturing Plants -

Singapore • Malaysia • China • France • Poland

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

HEAD OFFICE

2304 Bedok Reservoir Road,
#05-00 Dou Yee Building,
Singapore 479223

Tel: (65) 6444 2678
Fax: (65) 6743 7172
Website: www.douyee.com
Email: s4_marketing@douyee.com.sg



Branches Contacts



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