

4 types of ESD Warp
Knitted Fabrics

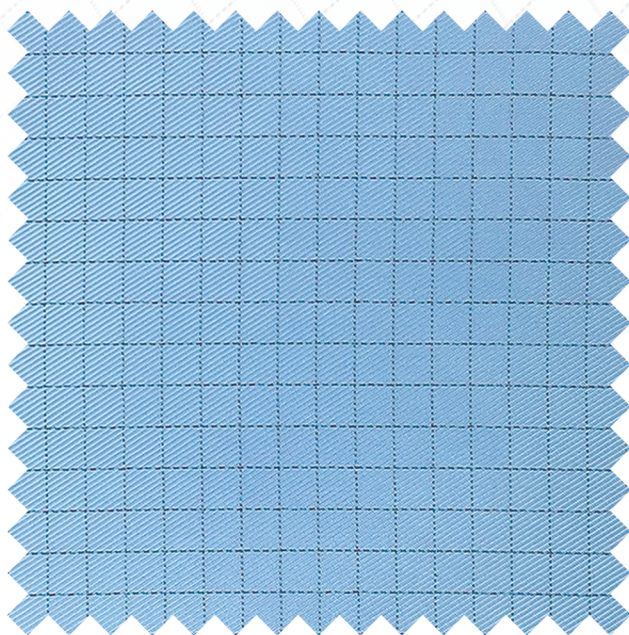
Cleanroom & ESD Fabrics & Garments



Recycled Cleanroom Fabric New

Recycled Cleanroom Fabric supports sustainable development goals through recycling and reuse of raw materials for sustainable consumption. The cleanroom fabrics and garments are engineered to meet the highest industry standards while ensuring a greener future. The fabrics are made with recycled multi-filament polyester yarn offering excellent barrier performance.

The high-density construction provides enhanced particle filtration efficiency for critical applications in pharmaceutical, medical, biotechnology, semiconductor, and high-tech industries. The sustainable and reliable fabrics maintain superior contamination control while supporting environmental responsibility initiatives. The products demonstrate commitment to both performance excellence and environmental stewardship in manufacturing operations.



MDF-307R (M02F-036) offers excellent barrier performance with high density, made with recycled multi-filament polyester yarn, providing enhanced particle filtration efficiency. It is designed for use in cleanroom environments in the pharmaceutical, medical, biotechnology, semiconductor, and high-tech industries.

Descriptions

- Composition: 98% Polyester yarn (35% rPET), 2% Conductive carbon yarn
- Yarn count: PFY 75D x PFY 75D
- Density: 210 x 120 threads/inch
- Weave: 2/3 twill (4 mm Grid)
- Width: 58"/60"
- Weight: 115 gr/m²



MDF-199UTR (M12F-009) is made of recycled polyester microdenieryarn and high-multi polyester textured yarn, offering a soft hand feel with added bulk, stretch, and elasticity. It undergoes a sand washing process to further enhance softness by optimizing the fiber structure, making it ideal for undergarments and scrubs while supporting sustainability.

Descriptions

- Composition: 99% Polyester yarn (65% rPET), 1% Conductive carbon yarn
- Yarn count: PHY 75D x PMY 150D
- Density: 105 x 84 threads/inch
- Weave: Taffeta (5 mm Weft Stripe)
- Width: 58"/60"
- Weight: 95 gr/m²

Cleanroom & ESD Fabrics

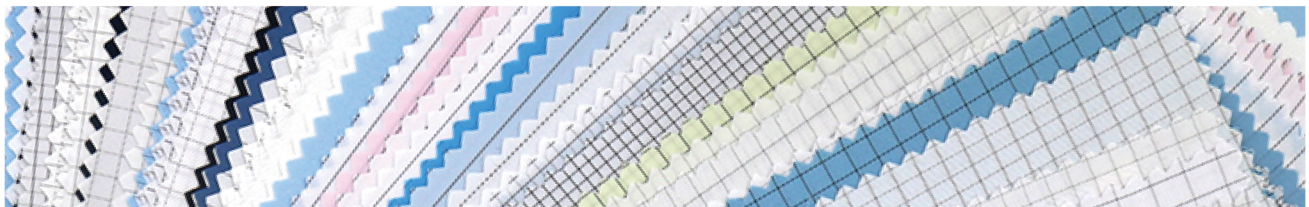
Polstar® ESD / Cleanroom Fabrics are primarily composed of high multi-filament polyester and carbon filament yarn to insure maximum protection against particle contamination and ElectroStatic Discharge (ESD). The Polstar fabrics did not neglect to consider the salient concerns of the workers including air permeability, wearability and durability.

Features

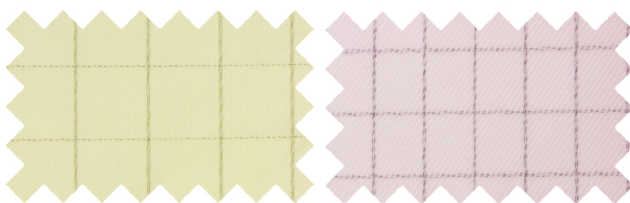
- Over 80 different fabrics
- Immediate delivery from our stock
- Strict quality control from our profound knowledge and wide experience
- Continuous development to meet customer's new requirement
- Additional treatments, such as silicon free, Teflon and antimicrobial are available.

Applications

- Electronic and semiconductor Industries
- Medical and Pharmaceutical Industries
- Food Industry
- Automotive Industry
- Aerospace Industry and many others

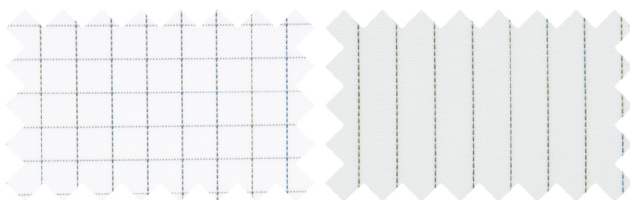


Lint Free Static Control Fabric



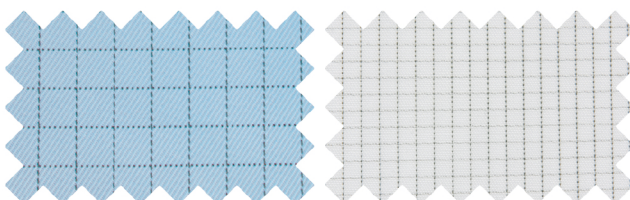
M01F-001 (MDF-140)

M01F-002 (MDF-145)



M01F-003 (MDF-160)

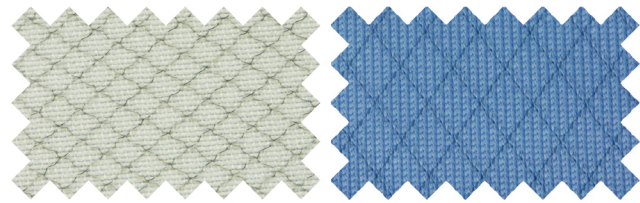
M01F-007 (MDF-170)



M01F-016 (MDF-502)

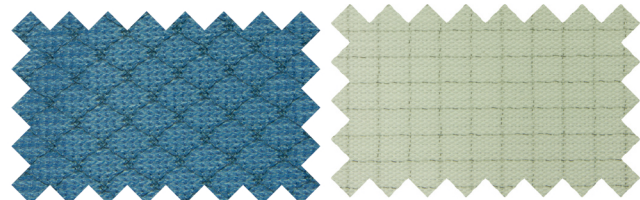
M01F-005 (MDF-167)

Conductive Fabric



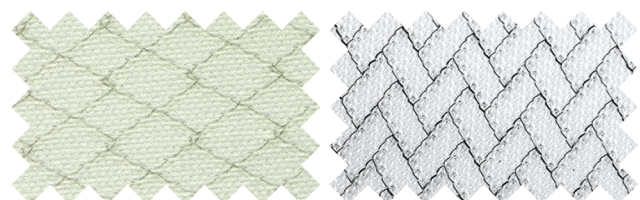
M03F-001 (MDF-150)

M03F-002 (MDF-152)



M03F-003 (MDF-153)

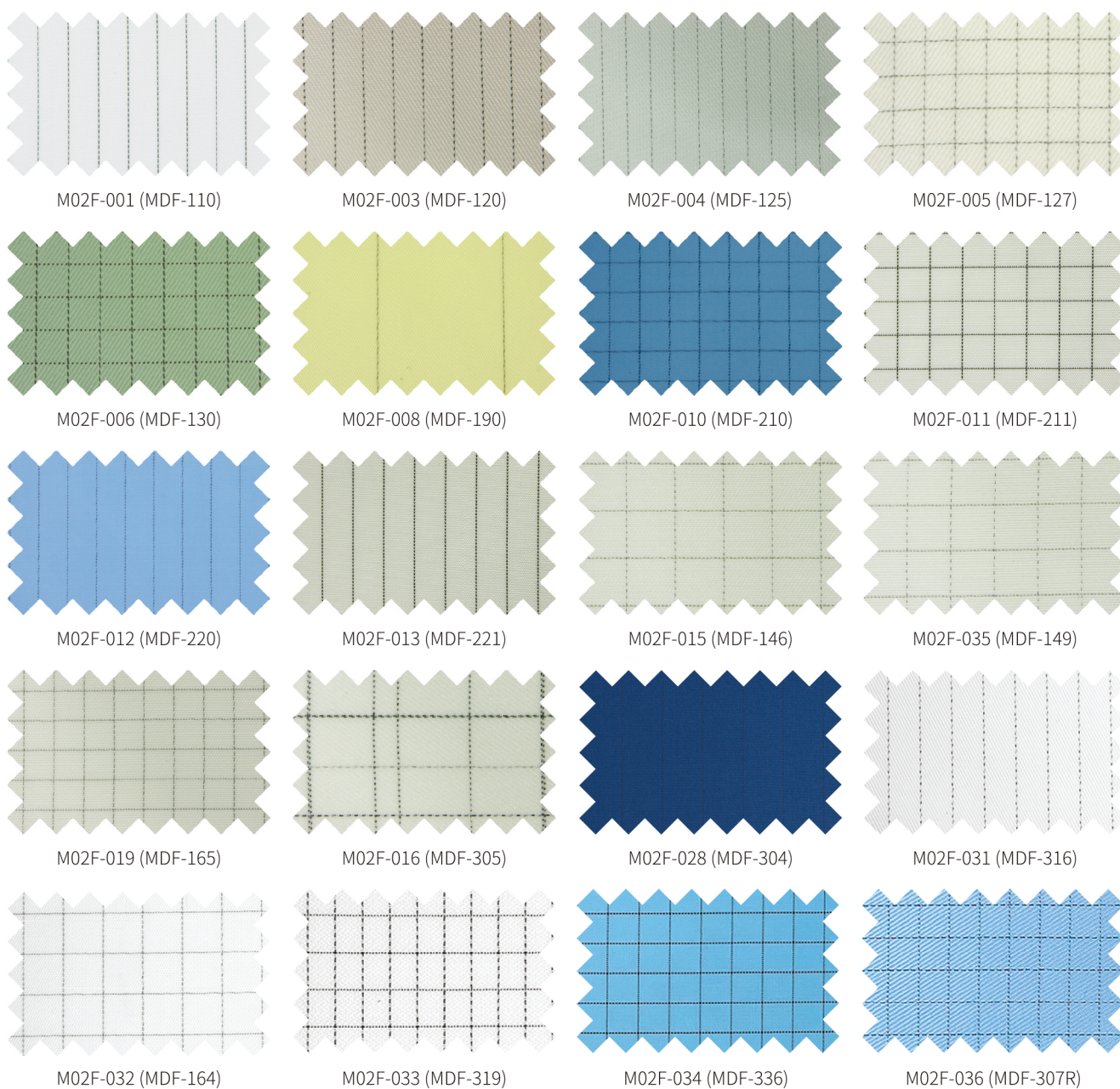
M03F-005 (MDF-156C)



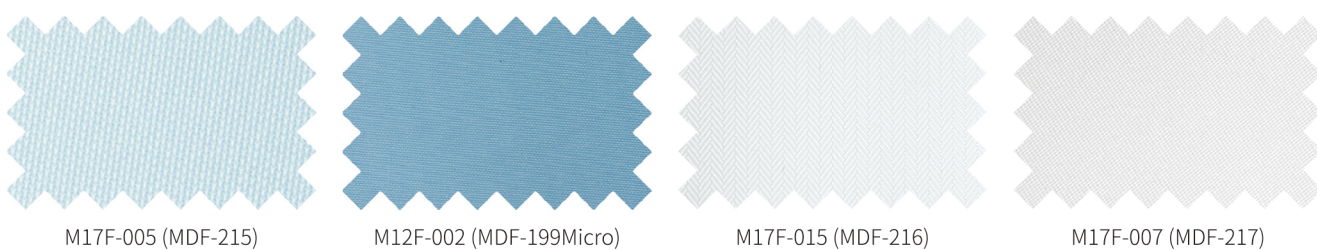
M03F-004 (MDF-155)

M15F-016 (MDF-286)

Sterilization Compatible Cleanroom Fabric



Non-ESD Fabric



ESD Knitted Fabric

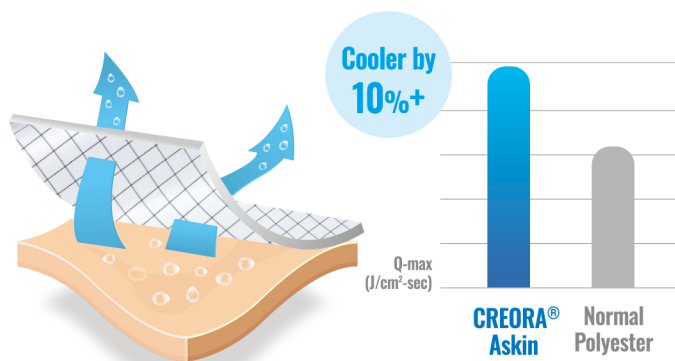
4 types of ESD Warp Knitted Fabrics having low surface resistance range of $10e5 \sim 10e6$ ohm are suitable for being used in ESD Category 3 garment. As they are in different patterns and density, customers can choose the most suitable fabric with wide color options for their needs.



Item Code	M15F-016	M15F-013	M15F-014	M15F-015
Model (P/N)	MDF-286	MDF-283	MDF-284	MDF-285
Descriptions	6×3 mm herringbone fabric	5 mm diapered light fabric	3 mm diapered fabric	6 mm diapered fabric
Composition	Polyester yarn 87% Conductive carbon yarn 13%	Polyester yarn 91%, Conductive carbon yarn 9%	Polyester yarn 93% Conductive carbon yarn 7%	Polyester yarn 98% Conductive carbon yarn 2%
Conductive Yarn	RESISTAT® F902 F044	RESISTAT® F902 F044	RESISTAT® F902 F044	RESISTAT® F902 F044
Width	60"/61"	60"/61"	60"/61"	60"/61"
Weight	125 g/yard	118 g/yard	195 g/yard	196 g/yard
Surface Resistance	$10e5 \sim 10e6$ ohm	$10e5 \sim 10e6$ ohm	$10e5 \sim 10e6$ ohm	$10e5 \sim 10e6$ ohm

CREORA® Askin Cleanroom Fabric

The CREORA® Askin is the brand name of functional cool touch yarn developed by Hyosung TNC, one of the leading textile companies, specialized in developing various synthetic fiber in Korea. It is specially-engineered polyester fiber to improve cooling compared to natural fiber.



Descriptions

- Woven fabric with CREORA® Askin Polyester filament yarn and Kanebo Belltron® B31 conductive yarn
- Composition: Polyester filament yarn 98% & ECF 2%
- Weave: Taffeta (5 mm grid)
- Width: 58"/60"
- Weight: 85 g/sqmt

Features

- Lint-free
- Static dissipative (S/R: $10e7$ ohm)
- UV Protection
- Smart Cool / Odor Removing
- Superior Sweat-absorbing property/fast drying function
- Better opacity
- Long lasting Freshness
- Gamma compatible and autoclavable



CSM Rubber Sheet for Soles

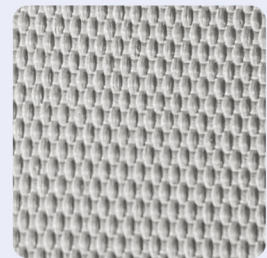
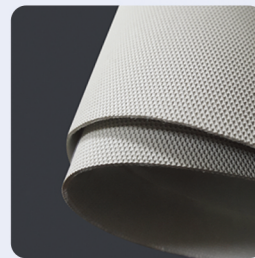


The CSM (Chlorosulfonated polyethylene) rubber sheet reinforced with high tenacity polyester fabric is a kind of a very particular material for the bottom soles of cleanroom overshoes or the webbing material on the overshoes. Coming in a sheet form, it can be applied to the various shapes and the sizes of the soles according to each customer's need, unlike many existing ready-made soles.



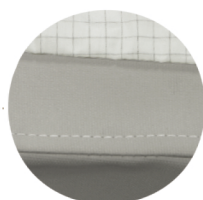
Features

- Excellent chemical resistance
- Anti-slip
- Bendable at a low temperature (-45°F)
- Strong resistance to abrasion
- Autoclavable (withstand up to 120°C)
- Gamma-ray stable at min. 737 kGy/max. 760.8 kGy
- Antistatic finish (10e10 ~ 10e11 ohm)



Item Code	M20F-001
Packing	30 yds/roll
Constructions	 • Polyester fabric (front) • CSM Rubber (back)

Test	Warp	Weft	Unit	Test Method
Color	Light Grey			Visual
Width (trimmed)	56		inch	ASTM D 751-19
Total Weight	1,010.8 (23.8) ±5%		g/m ² (oz/yd ²)	
Thickness	0.87 ± 0.10 mm		mm	
Bursting Strength	Above 1,050		kPa	
Tearing Strength	80 (18.0)	57 (12.8)	N (lbf)	FS 191A-5134 : 1978
Breaking Strength	2,092.7 (470.5)	1,463.1 (328.9)	N (lbf)	ASTM D 751-19 GRAB test method
Elongation	50.4	53.5	%	
Adhesion Strength	157.4 (30.3)		N/2.54 cm (lbf/inch)	FS 191A 5970 : 1978
Abrasion Resistance	1,066		cycles	ASTM D 3389-21



Cleanroom & ESD Garments

Cleanroom/ESD Garment is used in the place where proper protection against particle contamination and Electrostatic Discharge is required. We can supply you with this garment as well as the fabric.

We have various styles of garments such as Coverall, Gown, Lab Coat, T-shirt, etc. in our range.

Features

- Produced on your required fabric and design
- Produced by skilled workers with wide experience
- Produced with high quality fabric and sewing accessories
- Considering air permeability, comfortability, wearability and durability
- Strict quality control from fabric to finished garment
- Small quantities also can be supplied

Cleanroom Coverall

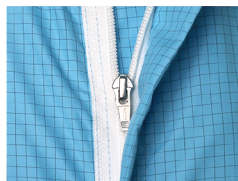


Neck Type



Mandarin (China) Collar

Closure Type

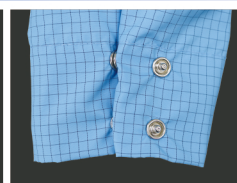


Concealed Zip Closure

Cuff Type



Knitted Cuff



Snap Button



Elastic Band



Cleanroom Hood

The Hood is required in Cleanroom together with Cleanroom garments to block particles generated from worker's head and neck. Customized fabrics and designs are available on request.

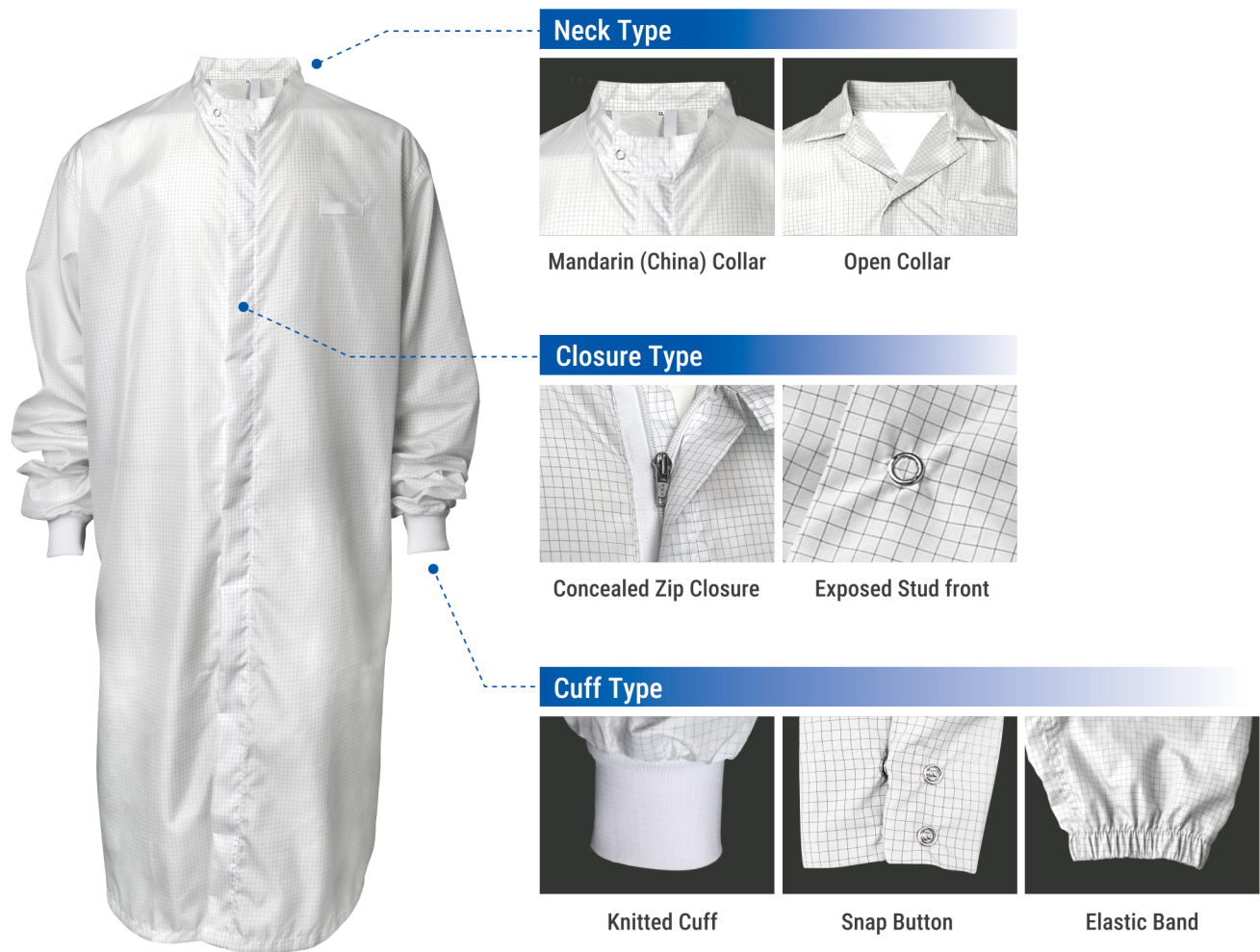


M11F-010



M11F-011

Cleanroom Gown



Company logo printing is available.



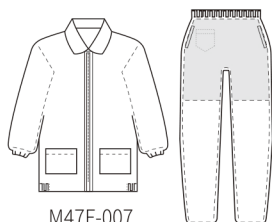
Cleanroom & ESD Apparel (Ready-made)

- **Fabric:** 5 mm stripe, Polyester 99%, Carbon 1% • **Color:** Sky Blue, White
- ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1) • EN 61340-5-1 • Typical value: $< 1.0 \times 10^{11} \Omega\text{m}$ (Static Control Garment)



ESD Jacket and Pants

M40F-003 (Set)



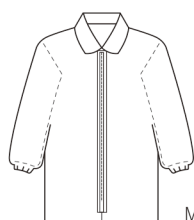
M47F-007

M48F-004

(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	66.5	68
L (Back) (±1)	62	64.5	67	70	72	74	78
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±0.1)	42.5	45	47.5	50	51.5	52.5	53.5
L (Pants) (±1.5)	96.5	98.5	102	103.5	105	108	111.5
Waist (Pants) (±1)	44.5	46.5	48.5	50	52	54	56
Hips	50.5	53	55	56	58.5	60	62
Thighs	34	36	36.5	37.5	39	39.5	41

ESD Safari

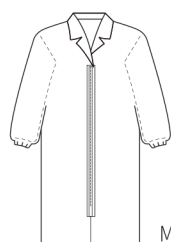


M41F-007

(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	65.5	68
L (Back) (±1)	68.5	70	72	75	77.5	80.5	82.5
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±1)	42.5	45	47.5	50	51.5	52.5	53.5

ESD Gown

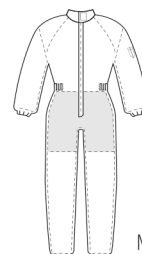


M41F-006

(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	65.5	68
L (Back) (±1)	96.5	98	101.5	104.5	108.5	112.5	115
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±1)	42.5	45	47.5	50	51.5	52.5	53.5

Cleanroom Coverall

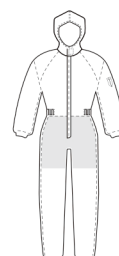


M42F-003

(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	53	55.5	58.5	61	63.5	66	68.5
L (Back) (±1.5)	156	160	162.5	166.5	169	176	179
L (Sleeves) (±1.5)	80	83	84.5	87.5	89.5	91	92

Cleanroom Coverall with Hood



M43F-004

(cm)

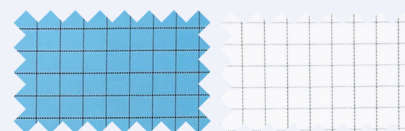
Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	53	55.5	58.5	61	63.5	66	68.5
L (Back) (±1.5)	156	160	162.5	166.5	169	176	179
L (Sleeves) (±1.5)	80	83	84.5	87.5	89.5	91	92



Cleanroom & ESD Apparel (Ready-made)

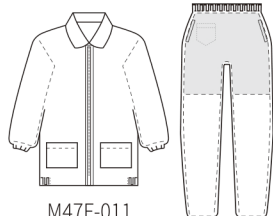
• **Fabric:** 5 mm grid, Polyester 98%, Carbon 2% • **Color:** Sky Blue, White

• ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1) • EN 61340-5-1 • Typical value: $< 1.0 \times 10^9 \Omega$ (Groundable Static Control Garment System)



ESD Jacket and Pants

M40F-004 (Set)



M47F-011

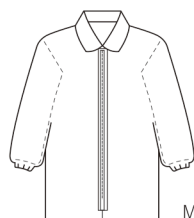
M48F-006



(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	66.5	68
L (Back) (±1)	62	64.5	67	70	72	74	78
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±0.1)	42.5	45	47.5	50	51.5	52.5	53.5
L (Pants) (±1.5)	96.5	98.5	102	103.5	105	108	111.5
Waist (Pants) (±1)	44.5	46.5	48.5	50	52	54	56
Hips	50.5	53	55	56	58.5	60	62
Thighs	34	36	36.5	37.5	39	39.5	41

ESD Safari



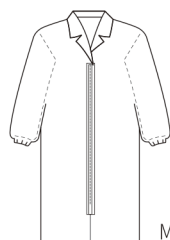
M41F-010



(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	65.5	68
L (Back) (±1)	68.5	70	72	75	77.5	80.5	82.5
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±1)	42.5	45	47.5	50	51.5	52.5	53.5

ESD Gown



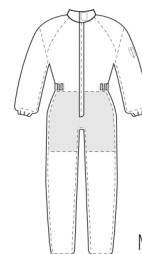
M41F-009



(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	52	55	57.5	60.5	62.5	65.5	68
L (Back) (±1)	96.5	98	101.5	104.5	108.5	112.5	115
L (Sleeves) (±1)	52.5	54.5	56	58.5	60	62	64
W (Shoulder) (±1)	42.5	45	47.5	50	51.5	52.5	53.5

Cleanroom Coverall



M42F-004



(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	53	55.5	58.5	61	63.5	66	68.5
L (Back) (±1.5)	156	160	162.5	166.5	169	176	179
L (Sleeves) (±1.5)	80	83	84.5	87.5	89.5	91	92

Cleanroom Coverall with Hood



M43F-005



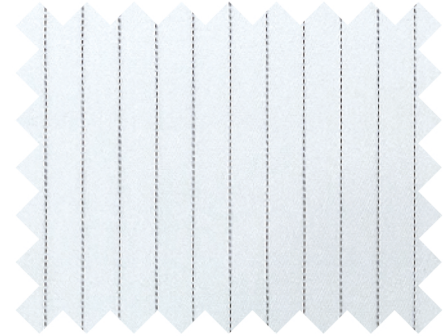
(cm)

Descriptions	S	M	L	XL	2XL	3XL	4XL
Chest (±1.5)	53	55.5	58.5	61	63.5	66	68.5
L (Back) (±1.5)	156	160	162.5	166.5	169	176	179
L (Sleeves) (±1.5)	80	83	84.5	87.5	89.5	91	92



ESD Chemical Resistant Fabric

ESD Chemical Resistant Fabric (ECRF) is ideal for the environment where chemical-related products are used and handled. There is special PU coating on the fabric and the thin and chemical-proof film is laminated on the top of the coated fabric to achieve maximum chemical resistant properties. The **ECRF** can effectively protect workers from potential risks associated with exposure to dangerous and harmful chemicals and provides a particle and ESD-safe working environment. We can create a range of finished products with **ECRF**, such as ESD Arm Sleeves, ESD Aprons, ESD Open-back Coats and more.



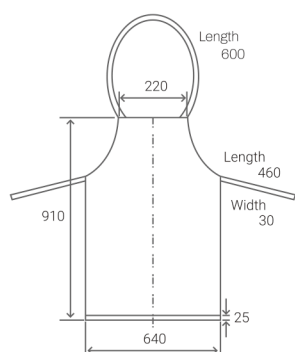
M07F-004 (MDF-245)

Technical Specifications

Test	Warp	Weft	Unit / Result	Test Method
Yarn	PFY 75D	PFY 100D	Denier	
ECF	F-901 (BASF)		-	
Density	192	92	Threads/Inch	
Weave	1/2 twill (5 mm stripe)			
Dimension	58" / 60"		inch × yd	
Weight	166		GR/SQMT	
Thickness	0.18 ± 0.01		mm	
Friction Static Voltage (Back)	< 100		Volts	JIS-L1094B
Surface Resistance	10e10 ~ 10e11 (front)		Ω	ASTM-D257
	10e6 ~ 10e7 (back)			
Index of Chemical Penetration	1. Sulfuric Acid (50%)	0%	Class 6	ISO 6530-2005
	2. Hydrochloric acid (36%)	0%	Class 6	
	3. Nitric Acid (50%)	0%	Class 6	
	4. Formic Acid (50%)	0%	Class 6	
	5. Hydrofluoric Acid (40%)	0%	Class 6	
	6. Sodium Hydroxide (40%)	0%	Class 6	
	7. Hydrogen Peroxide (30%)	0%	Class 6	
	8. Toluene (99.5%)	0%	Class 6	
	9. Acetone (99.5%)	0%	Class 6	
	10. Methanol (99.5%)	0%	Class 6	
	11. Hexane (95%)	0%	Class 6	
Constructions	 Chemical Resistant Film PU Coating Cleanroom Fabric (MDF-170)			

Class 6 (≤ 1%)
 Class 5 (≤ 5%)
 Class 4 (≤ 10%)
 Class 3 (≤ 20%)
 Class 2 (≤ 50%)
 Class 1 (> 50%)

ESD Chemical Resistant Apron



Item Code M25F-001

Fabric MDF-245

SR 10e10 ~ 10e11 ohm (front), 10e6 ~ 10e7 ohm (back)

Size 640 mm(W)×910 mm(L)

ESD Chemical Resistant Sleeves



Item Code M24F-001

Fabric MDF-245

SR 10e10 ~ 10e11 ohm (front), 10e6 ~ 10e7 ohm (back)

Size 200 mm(W)×400 mm(L)

ESD Chemical Open-back Coat



Item Code M26F-001

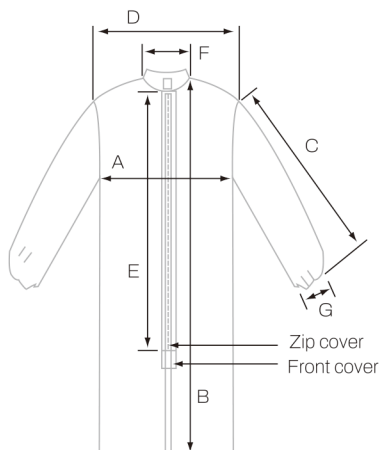
Fabric MDF-245

SR (front) 10e10 ~ 10e11 ohm
(back) 10e6 ~ 10e7 ohm

(cm)

Size	Chest	Length	Sleeves	Shoulder
S	57	107	61	42.5
M	60	110	62	45
L	62.5	113	63	47.5
XL	65	116	64	50
2XL	67.5	119	65	52.5
3XL	70	122	66	55

ESD Chemical Resistant Gown



Item Code M30F-001

Fabric MDF-245

SR (front) 10e10 ~ 10e11 ohm
(back) 10e6 ~ 10e7 ohm

(cm)

Size	A	B	C	D	E	F	G
S	51.5	101	57.5	39.5	53	50	19
M	54	104	58	42	53	50	19
L	56.5	107	59.5	44.5	53	50	19
XL	59	110	61.5	47	53	50	19
2XL	61.5	113	62.5	49.5	53	50	20
3XL	64	116	62.5	52	53	52	20

ESD Coolon Fabric

Experience Innovative Cool & Enjoy More Comfortable Life!

COOLON is a powerful performance fiber with excellent moisture dispersion creating a natural and refreshing feel. With the Cool Fiber Technology of Kolon, we have developed our own ESD Coolon Fabric with a Memory in 10 mm conductive filament stripe (MDF-320) and a Pique in 7 mm conductive filament stripe (MDF-250). The Interlocking Design, also known as Double Knitted Pattern, which is the umbrella term of Memory, Pique, etc., has different texture on both sides. The inside surface to be touched on the skin feels soft, like cotton while the surface facing outside has rough and wider in cross-section so that sweat from your skin will be evaporated and dried quickly by exposing wider surface of the fabric to the air. Our ESD Coolon Fabric is one of the best choices for making Casual wear, Shirts and Sportswear for the people who handle any ESD sensitive materials or devices in EPA (ESD Protected Area).



· Excellent ESD properties



· Good resistance to fading, shrinking and wrinkling.



· Improved breathability



· Quick moisture absorption



· Fast drying



· Dry and soft touch



· No particle generation



· Unique brightness



· Excellent durability

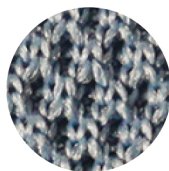
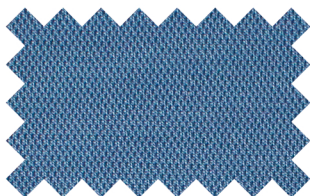


· Easy to care and handling

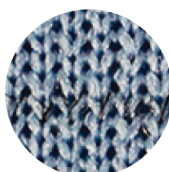
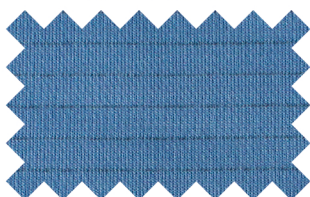


· All-weather fabric

Outer surface

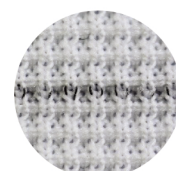
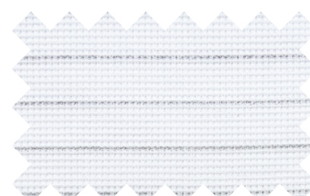


Inner surface

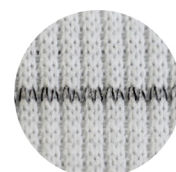
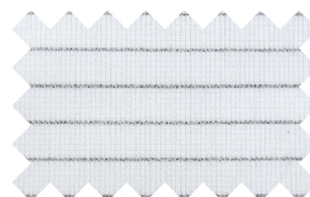


M05F-001 (MDF-250)

Outer surface



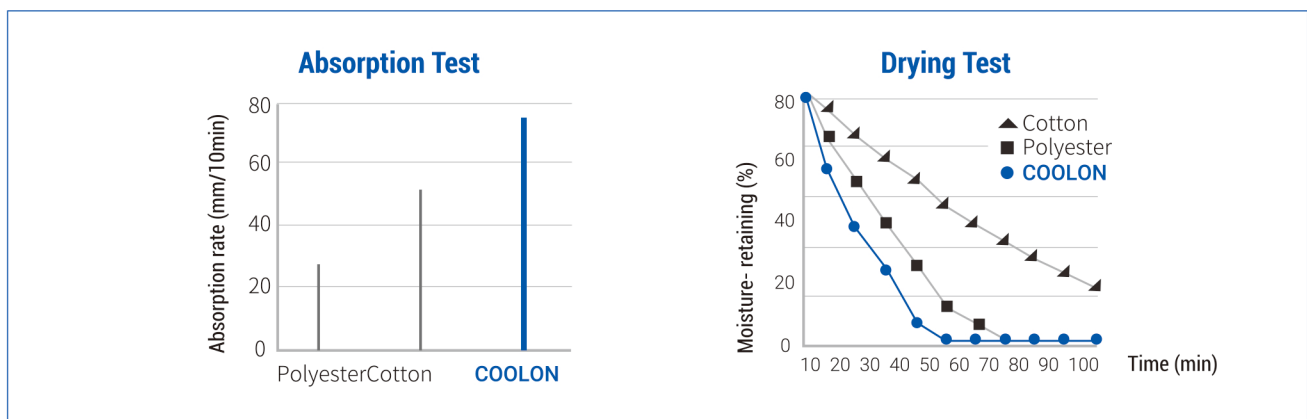
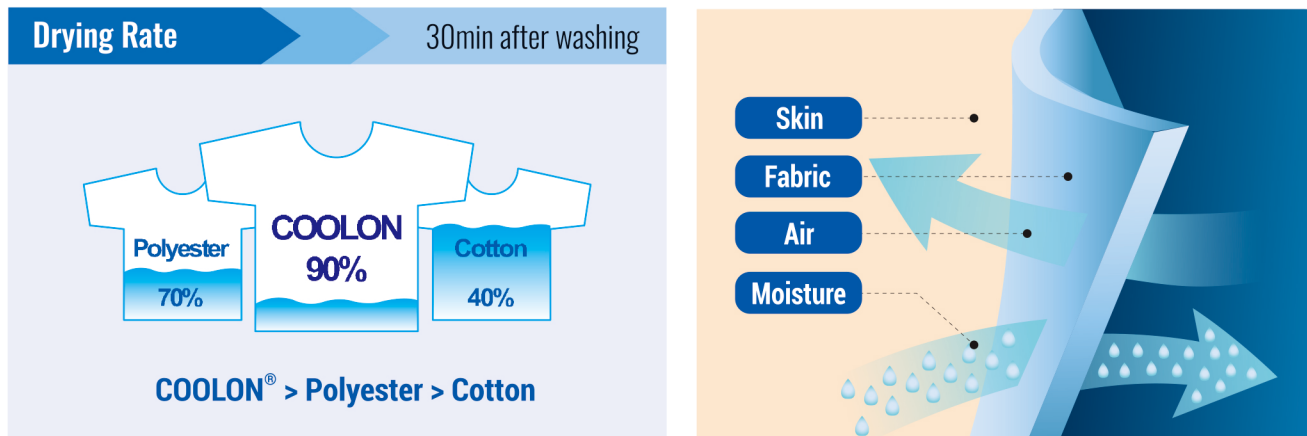
Inner surface



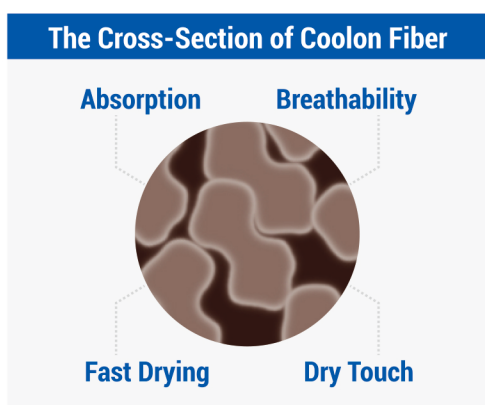
M05F-002 (MDF-320)

What is COOLON® ?

COOLON is the brand name of functional moisture-wicking fiber developed by Kolon, which is one of the leading textile companies specialized in developing various synthetic fiber in Korea. It is specially-engineered polyester fiber to improve "breathability" compared to natural fiber like cotton.



The Coolon fiber is not round, but slightly oblong in cross-section, like a peanut hull. It means that the surface of Coolon fiber in cross-section is wider than that of other fiber. This unique shape of the fiber creates capillary action that absorbs moisture through the core and out to the wider area on the surface of the fiber that increases evaporation.



Item Code	M05F-001	M05F-002
Model	MDF-250	MDF-320
Color		
Dimension	70"/72"	58"/60"
Weight	148 g/sqmt	205 g/sqmt
Compositions	Polyester (Coolon) 98%, Conductive Yarn 2%	
Surface Resistance	10e6 ~ 10e7 ohm	10e5 ~ 10e6 ohm

ESD Coolon Shirt

ESD Coolon Shirt is made of 100% polyester with embedded ECF (Electro-Conductive Fiber) in stripe pattern. This special fabric, made in Korea, is under well controlled QC, and generates significantly low lint compared to other normal fabric. It is comfortable thanks to quick sweat evaporation and good ventilation, and it has extra durability, light weight, etc. The touch is like DuPont Coolmax fabric, which is the material of popular sports wear. ESD Coolon shirt is suitable for the people working in hot and high humidity environment, and is also a good choice for the workers handling ESD sensitive products by virtue of its good ESD properties.



Item Code M06F-003-WH
Model MDF-250CL



Item Code M06F-003-RB
Model MDF-250CL

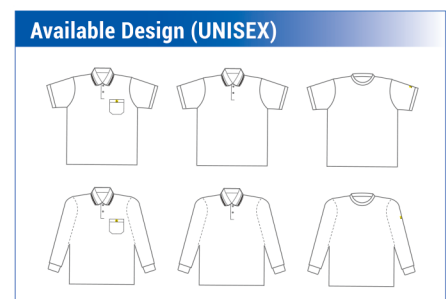
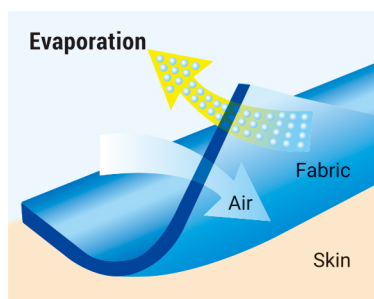
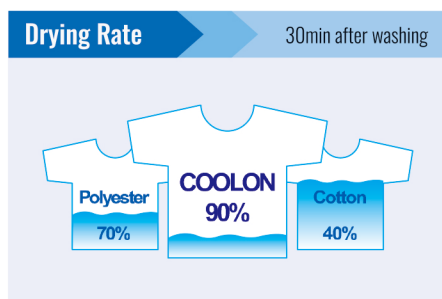


Item Code M06F-004-NA
Model MDF-250RL

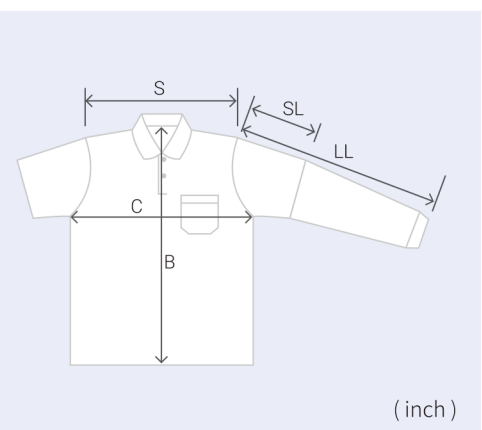


Item Code M06F-002-BK
Model MDF-250RS

Model	Type	Fabric	Color	Composition	Weight	Option
MDF-250CS	Shirt with collar and short sleeves	M05F-001 (MDF-250)	White Royal Blue Navy Black	98% of Polyester Coolon fabric and 2% of ECF yarn	148 g / sqmt	· ESD symbol · Breast pocket
MDF-250RS	Shirt with round neck and short sleeves					
MDF-250CL	Shirt with collar and long sleeves					
MDF-250RL	Shirt with round neck and long sleeves					



Mark	Chest (C)	Back (B)	Shoulder(S)	Sleeve	
				Short (SL)	Long (LL)
XS	19.5	27	18.5	8	23.5
S	20.5	28	19	8.5	24
M	21.5	28.5	19.5	8.5	24
L	22.5	29	20	9	24.5
XL	23.5	30	21	9.5	25
2XL	24.5	31	21.5	10	25.5
3XL	25.5	32	22.5	10.5	26
4XL	26.5	33	23.5	10.5	26.5
5XL	27.5	33.8	24.5	11	26.5
6XL	28.5	34.4	25.5	11	27



· ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1) · EN 61340-5-1 · Typical value: $< 1.0 \times 10^{11}$ ohm (Static Control Garment)

*Allowance: $\pm 5\%$

EPA Coolon Shirt



Polo Shirt

M32F-007



Round Shirt

M32F-003



V-neck Shirt

M32F-002

New Design

Women's



Polo Shirt



Round Shirt

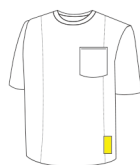


V-neck Shirt

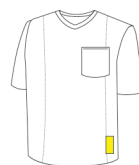
Men's



Polo Shirt



Round Shirt



V-neck Shirt

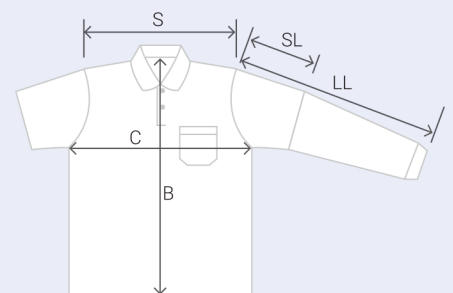
Descriptions

- Designed for using in EPA area with excellent ESD properties.
- No static, quickly disperse the sweat.
- Soft and dry touch like cotton
- Tailored in UNISEX Design.
- Colored conductive sewing thread
- Color: White, Royal Blue, Black
- Fabric: M05F-002 (MDF-320)

Features

- ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)
- Groundable Static Control Garment System (EN 61340-5-1)
- Typical value: $< 1.0 \times 10^9$ ohm

Item Gender	Size	Chest (C)	Back (B)	Shoulder (S)	Sleeve		
					Short (SL)	Long (LL)	
						Polo	Round V-neck
Women's	3XS	46.5	60.7	39.3	20.5	60.1	
	2XS	49.0	62.0	40.5	21.5	61.1	
	XS	51.5	63.5	41.8	22.5	62.1	
	S	54.0	65.0	43.0	23.5	63.1	
	M	56.5	66.5	44.2	24.5	64.1	
Men's	S	53.0	66.0	48.0	21.7	67.1	62.6
	M	55.5	68.0	49.2	21.7	67.6	62.6
	L	58.0	70.0	50.4	23.0	69.3	63.8
	XL	60.5	72.0	51.6	24.2	71.2	65.2
	2XL	63.0	74.0	52.8	25.5	73.0	66.5
	3XL	65.5	76.0	54.0	26.7	74.8	67.8



(cm)

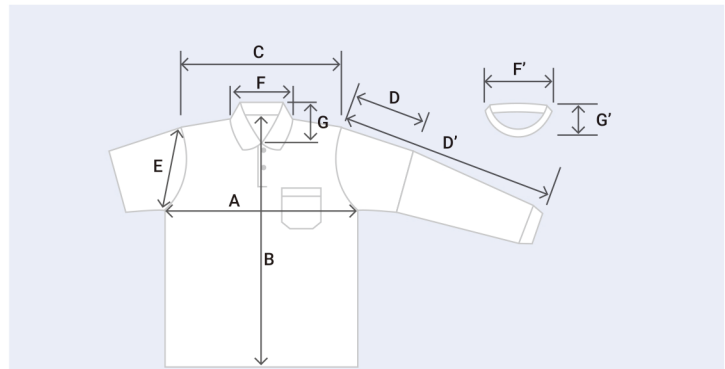
*Allowance: $\pm 5\%$

ESD Cotton Shirt



M21F-006

- **Composition:** 96% of Cotton and 4% of ECF
- **Weight:** 185 g/sqmt
- **ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)**
- **EN 61340-5-1**
- **Typical value:** $< 1.0 \times 10^{11}$ ohm (Static Control Garment)

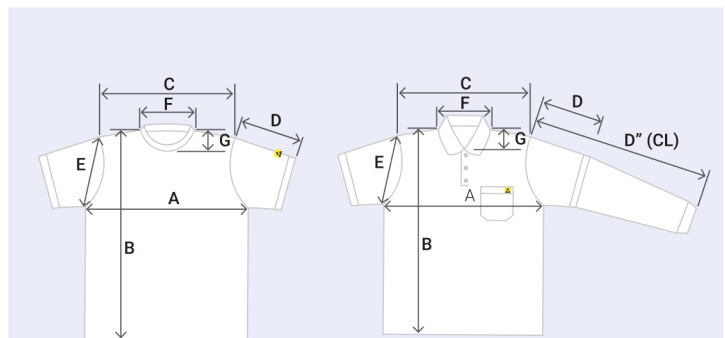


(cm)

Size	Descriptions	S	M	L	XL	2XL	3XL	4XL	5XL
A	Chest	49	51	53.5	56	58.5	61.5	64.5	67.5
B	Height	70	72	74	77	79	81	83	85
C	Overarm	41.5	43	45	47	49	51	53	55
D	Sleeve	24	25	26	27	28	30	31	32
D'	Sleeve	57	58	59	60	61	62	63	64
E	Sleeve/W	21	22	24	26	27.5	29	30	31
F	Neck	17	17	17	18	18	18	18	19
F'	Neck	18	18	19	19	20	20	21	21
G	Neck/H	9	9	9	10	10	10	10	10
G'	Neck/H	10	10	10	10.5	10.5	10.5	11	11

*Allowance: $\pm 5\%$ 

M21F-002



MDF-270RS

MDF-270CS / MDF-270CL

(cm)

Model	Type
MDF-270CS	T-shirt with collar and short sleeves
MDF-270RS	T-shirt with round neck and short sleeves
MDF-270CL	T-shirt with collar and long sleeves
MDF-270RL	T-shirt with round neck and long sleeves

- **Composition:** 80% of Cotton, 16.4% of Polyester & 3.6% of ECF
- **Weight:** 172 g/sqmt
- **ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)**
- **EN 61340-5-1**
- **Typical value:** $< 1.0 \times 10^{11}$ ohm (Static Control Garment)

Size	A	B	C	D	D''	E	F		G	
				RS/CS	CL		RS	CS/CL	RS	CS/CL
XS	47	63	41	22.5	57	21.5	18	17	9.5	9.6
S	49.5	65	42.5	23.5	57	22	18.5	17	9.8	9.6
M	52	67	44	24.5	58	23	19	17	10.1	9.6
L	54.5	69	45.5	24.5	60	24	19.5	18	10.4	10.3
XL	57	71	47	25.5	60	25	20	18	10.7	10.3
2XL	59.5	73	48	26.5	62	25.5	20.5	18	11	10.3
3XL	62	75	50	26.5	62	26	21	19	11.3	10.3
4XL	64.5	77	52	27.5	63	26.5	21	19	11.3	10.3
5XL	67	79	54	28.5	63	27	21	19	11.3	10.3

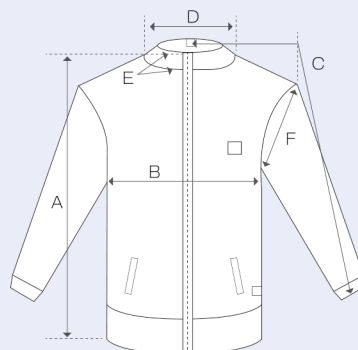
*Allowance: $\pm 5\%$

ESD Cardigan



M21F-005

- **Composition:** 90% of Cotton, 8% of Polyester and 2% of ECF
- **Weight:** 300 g/sqmt
- **ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)**
- **EN 61340-5-1**
- **Typical value:** $< 1.0 \times 10^{11}$ ohm (Static Control Garment)



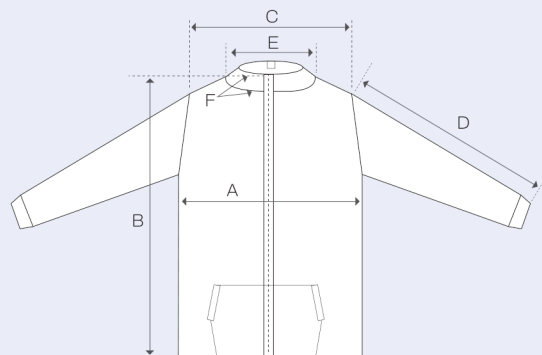
(cm)

Size	Descriptions	XS	S	M	L	XL	2XL	3XL	4XL	5XL
A	Back	63	65	67	69	71	73	75	77	79
B	Chest	50	53	56	59	62	65	68	71	74
C	Sleeve	88	89.25	90.5	91.75	93	95.25	95.5	96.75	98
D	Back Neck	19	19.5	20	20.5	21	21.5	22	22.5	23
E	Depth of Neck	7.5	8	8.5	9	9.5	10	10.5	11	11.5
F	Sleeve at Widest	21.5	22.5	23.5	24.5	25.5	26.5	27.5	28.5	29.5

*Allowance: $\pm 5\%$ 

M35F-001

- **Composition:** 91% of Polyester (Polar fleece) and 9% of ECF
- **Weave:** Terry
- **Weight:** 250 g/sqmt
- **ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)**
- **EN 61340-5-1**
- **Typical value:** $< 1.0 \times 10^{11}$ ohm (Static Control Garment)



(cm)

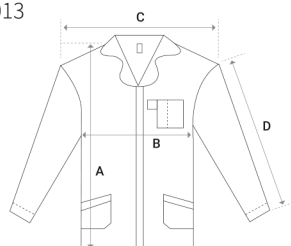
Size	Descriptions	XS	S	M	L	XL	2XL	3XL	4XL	5XL
A	Chest	53	54	55	57.5	60	62.5	64	65.5	67
B	Back	63.5	65	66.5	69	71.5	74	75.5	77	78.5
C	Shoulder	41	43	45	47	48.5	50	52	54	55
D	Arm	57	58	59	60	61	62	63	64	65
E	Back Neck	17	17	17	17	18	18	18	19	19
F	Depth of Neck	9	9	9	9	9	9	9	9	9

*Allowance: $\pm 5\%$

ESD Light Gown



M04F-013



Descriptions

- Designed for using in EPA with excellent ESD properties.
- Light weight: 79 g/sqmt
- ESD logo and a pen slot on the pocket
- Grounding studs (Left & Right)
- Cuff snap buttons (Front & Right)
- Fabric: MDF-153U (90% Polyester & 10% Carbon)
- Made In Korea

Features

- ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)
- EN 61340-5-1
- Groundable Static Control Garment System
- Typical value: $< 1.0 \times 10^9$ ohm

(cm)

Size	XS	S	M	L	XL	2XL	3XL
A	72	74	76	78	80	82	84
B	96	104	114	124	134	144	154
C	40	44	49	54	59	64	69
D	58.5	61	63.5	66	68.5	71	73.5

*Allowance: $\pm 5\%$

ESD Lab Coat



M04F-002

Descriptions

- Hip length, shirt collar
- 3patch pocket & color combination
- Exposed Stud front
- Cuff snap button
- Fabric : MDF-150 (96% Polyester & 4% Carbon)
- Conductive sewing thread was used
- Made in Korea

Features

- ANSI/ESD S20.20-2021 (ANSI/ESD STM2.1)
- EN 61340-5-1
- Groundable Static Control Garment System
- Typical value: $< 1.0 \times 10^9$ ohm

(cm)

Size	Chest	Sleeve	Center Back	Shoulder
XXS	101	46	66	47
XS	107	48	69	48
S	112	51	71	51
M	119	55	76	52
L	123	57	77	55
XL	131	58	80	58
2XL	135	60	83	61
3XL	140	63	86	63

*Allowance: $\pm 5\%$

Cleanroom Underwear



Features

- Sand Wash treatment
- Soft touch and Lightweight
- Comfortable and Breathable
- Free from particle generation
- Pre-filtration of skin flakes generated from human body
- Autoclavable
- Gamma-ray, EtO sterilization Compatible
- ESD type (MDF-304, MDF-309, MDF-199UT) and Non-ESD type (MDF-199Micro)

Applications

- Worn underwear with laboratory coverall in Cleanroom
- Worn as an easywear in white gown at hospitals



Item Code	M46F-000	
Type	Long sleeve top	Short sleeve top
	Long pants	Short pants



M02F-028 (MDF-304) (3-8)



M02F-017 (MDF-309) (3-16)



M12F-001 (MDF-199UT) (3-20)



M12F-002 (MDF-199Micro) (5-4)

*Sample book No. 3-8, 3-16, 3-20, 5-4



Garment Accessories

Lint-free Sewing Thread



M13F-001



M13F-004



M13F-006

Product	Non-ESD polyester sewing thread	Conductive stainless steel yarn thread	Conductive carbon yarn thread
Item Code	M13F-001	M13F-004	M13F-006
Composition	Polyester 100%	Polyester 93%, Stainless 7%	Polyester 93%, Carbon 7%
Surface Resistance	-	10e3 ohm	10e6 ohm
Thickness	300 denier (2 ply)	466 denier (3 ply)	322 denier (3 ply)
Color	White, Sky Blue, Navy Blue and Olive Green	Grey	Grey
Packing	245 g/cone, 7350 m/cone 10 cones/box, 10 boxes/carton	245 g/cone, 4700 m/cone 10 cones/box, 10 boxes/carton	143 g/cone, 4004 m/cone 10 cones/box, 10 boxes/carton

Conductive Lint-free Ribbon



M14F-001

M14F-002

Item Code	M14F-001	M14F-002
Surface Resistance	10e6 ohm	
Color	Grey	
Width	13 mm	3.2 mm
Composition	Polyester yarn 93%, Carbon yarn 7%	
Packing	100 yards/bundle, 10 bundles/box	500 yards/bobbin, 10 bobbins/box

Conductive Spiral Cuff Fabric



Item Code	M15F-009
Yarn (Denier)	DTY 150D
ECF (BASF)	Silver Plated Yarn (39/10 dtex)
Density (Threads/Inch)	22W × 29C
Weave	1×1 RIB
Dimension (cm×yd)	6 pcs (3 pairs)/yd × 100 yds
Weight (g/liner yd)	54
Surface Resistance (ohm)	10e3 ~ 10e4

Conductive Knitted Cuff Fabric



Item Code	M15F-001	M15F-012
Yarn (Denier)	DTY 300D	
ECF (BASF)	F-901 (BASF)	
Density (Threads/Inch)	18W×32C	
Weave	1×1 RIB	
Dimension (cm×yd)	8 Tube × 100	10 Tube × 100
Weight (g/liner yd)	54	67.5
Surface Resistance (ohm)	10e6 ~ 10e7	
Color	Grey	

Non-ESD Knitted Cuff Fabric



Item Code	M17F-004-NA	M17F-004-WH
Yarn (Denier)	DTY 300D	
ECF (BASF)	-	
Density (Threads/Inch)	22W×28C	
Weave	1×1 RIB	
Dimension (cm×yd)	8 Tube × 100	
Weight (g/liner yd)	55	
Surface Resistance (ohm)	-	
Color	White, Navy	

Grosgrain Polyester Tape



Item Code	M31F-004
Size	15 mm (W) x 200 yards/roll
Applications	hang loop, snap button reinforcement

Non-ESD Polyester Fabric



Item Code	M17F-008 (MDF-219)
Applications	barcode patch

Standard Socks (Mid-calf length)



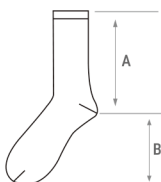
VIDEO



Item Code	M28F-001-color-size
Material	Polyester
Color	White (WH), other colors are available on request
Packing	1 pair/individual bag, 10 pairs/bag, 20 bags/carton
Size	S, M, L, XL

	(cm)			
Size	S	M	L	XL
A	23	24	25	25
B	25	26	27	28

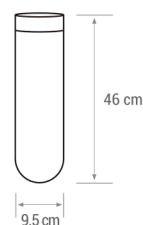
*Allowance: ±10%



Tube Socks with no heel



Item Code	M28F-002-color
Material	Polyester
Color	White (WH), Pink (PK), etc.
Packing	1 pair/bag
Size	9.5 cm(W) × 46 cm(L) with 5.3 cm cuff

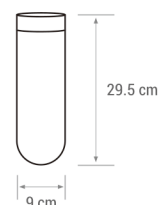
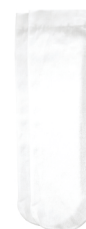


*Allowance: ±10%

Disposable Socks

Item Code	M28F-005-WH	M28F-006-WH
Material	Polyester + Nylon	Polyester
Color	White	
Packing	1 pair/bag, 20 pairs/double bag, 20 double bags/ctn	
Size	9 cm(W) × 29.5 cm(L)	

*Allowance: ±10%



Features

- Cleanroom compatible
- Autoclavable
- EU GMP Annex 1, Section 7.14
- Unisex
- Mid-calf length (M28F-001)
- One-size-fits-all (M28F-002, 005, 006)
- Tube socks with no heel (M28F-002, 005, 006)
- Reusable (M28F-001, 002)
- Single use only (M28F-005, 006)

ESD Socks

ESD Socks will be a good choice for any employees working in the manufacturing process of electronic components where static control is required.

Item Code	M27F-001-GR-size
Materials	Cotton 81%, Spandex 16%, Carbon yarn 3%
Surface Resistance	10e5 ~ 10e7 ohm
Size	M, L, XL
Color	Light Grey
Packing	1 prs/Bag

Features

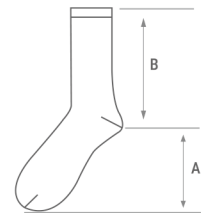
- Good ESD properties
- Low particles generation

Applications

- Assembly work in electronic production and semiconductors



(cm)			
Size	M	L	XL
A	20	23	25
B	13	14	15



Test Results

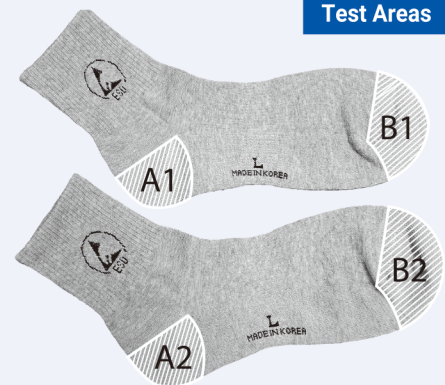
(ohm)

Testers	A1	A2	B1	B2
SRM200	5×10e6	6×10e6	5×10e6	5×10e6
METRISO 3000	4.3×10e6	1×10e6	4.25×10e6	1.95×10e6

Test Conditions

- Temperature: 18°C
- RH: 35~37%
- Testers: SRM200 / METRISO 3000

Test Areas



METRISO 3000



SRM200



ESD Tool Vest



Back



Descriptions

- **Composition:** 62% of Polyester, 34% of Cotton & 4% of ECF
- **Weight:** 208 g/sqmt
- **Typical point to point resistance:** 10e6 ~ 10e7
- Numerous tool pockets & holders



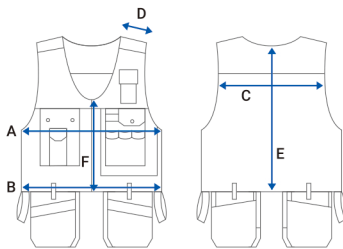
×4



×2

M36F-001

(cm)



Size	Descriptions	42	44	46	48	50	52	54	56	58	60	62	64	66
A	1/2 chest	47.0	49.0	51.0	53.0	55.0	57.0	59.0	61.0	63.0	65.0	67.0	69.0	71.0
B	1/2 bottom	46.0	48.0	50.0	52.0	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
C	Back width	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0
D	Shoulder	9.8	10.1	10.4	10.7	11.0	11.3	11.5	11.9	12.2	12.5	12.8	13.1	13.4
E	Back length	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	65.0
F	Zipper length	32.0	32.0	32.0	34.0	34.0	34.0	34.0	36.0	36.0	36.0	38.0	38.0	38.0



MEC Fabric Collection

No.	Model	ECF	Weave	Width (inch)	Weight (g/sqmt.)
▼ Lint Free Static Control Fabric					
1-1	MDF-507	F-901 (BASF)	1/2 twill (3.5 mm stripe)	58"/60"	96
1-2	MDF-170	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	107
1-3	MDF-235	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	129
1-4	MDF-245	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	166
1-5	MDF-171	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	107
1-6	MDF-503	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	79
1-7	MDF-157	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	175
1-8	MDF-501	F-901 (BASF)	2/3 twill (5 mm stripe)	58"/60"	107
1-9	MDF-195	F-901 (BASF)	Taffeta (20 mm stripe)	58"/60"	83
1-10	MDF-167	F-901 (BASF)	1/2 twill (2.5 mm stripe)	58"/60"	109
1-11	MDF-505	F-901 (BASF)	1/2 twill (2.5 mm grid)	58"/60"	109
1-12	MDF-160	F-901 (BASF)	1/2 twill (5 mm stripe)	58"/60"	107
1-13	MDF-161	F-901 (BASF)	1/2 twill (5 mm grid)	58"/60"	107
1-14	MDF-512	F-901 (BASF)	Taffeta (5 mm grid)	58"/60"	104
1-15	MDF-162	F-901 (BASF)	2/3 twill (5 mm grid)	58"/60"	107
1-16	MDF-502	F-901 (BASF)	2/3 twill (5 mm grid)	58"/60"	107
1-17	MDF-166	F-901 (BASF)	2/2 twill (5 mm grid)	58"/60"	120
1-18	MDF-169	F-901 (BASF)	2/2 twill (5 mm grid)	58"/60"	107
1-19	MDF-145	F-901 (BASF)	2/3 twill (7 mm grid)	58"/60"	109
1-20	MDF-506	F-901 (BASF)	2/3 twill (3×10 mm grid)	58"/60"	107
1-21	MDF-509	F-901 (BASF)	2/3 twill (5×3.5 mm grid)	58"/60"	107
1-22	MDF-140	F-901 (BASF)	1/2 twill (10 mm grid)	58"/60"	116
1-23	MDF-513	F-901 (BASF)	1/2 twill (10 mm grid)	58"/60"	109
1-24	MDF-156C	F-901 (BASF)	Taffeta (4 mm grid)	58"/60"	170
1-25	MDF-156CU	F-901 (BASF)	Taffeta (3.5 mm grid)	58"/60"	127
1-26	MDF-514	F-901 (BASF)	Taffeta (5 mm check)	58"/60"	118
1-27	MDF-515	F-901 (BASF)	Pique (4 mm stripe)	55"	236
▼ Conductive Fabric					
2-1	MDF-150	F-901 (BASF)	4bar net (diamond)	58"/60"	165
2-2	MDF-153	F-901 (BASF)	4bar net (diamond)	58"/60"	79
2-3	MDF-152	F-901 (BASF)	4bar net (diamond)	58"/60"	100
2-4	MDF-155	F-901 (BASF)	4bar net (diamond)	58"/60"	155
2-5	MDF-250	F-901 (BASF)	7 mm stripe	70"/72"	148
2-6	MDF-320	F-901 (BASF)	10 mm stripe		205
2-7	MDF-270	F-901 (BASF)	Pique	60"	172
2-8	MDF-270S	F-901 (BASF)	Pique	68"	323
2(new)	MDF-283	F-902 F044	4bar net (diamond)	60"/61"	85
2(new)	MDF-284	F-902 F044	4bar net (diamond)	60"/61"	140
2(new)	MDF-285	F-902 F044	4bar net (diamond)	60"/61"	140
2(new)	MDF-286	F-902 F044	4bar net (herringbone)	60"/61"	90
▼ Sterilization Compatible Cleanroom Fabric					
3-1	MDF-221	B-31 (Kanebo)	Taffeta (5 mm stripe)	58"/60"	92
3-2	MDF-220	B-31 (Kanebo)	1/2 twill (5 mm stripe)	58"/60"	93

No.	Model	ECF	Weave	Width (inch)	Weight (g/sqmt.)
3-3	MDF-301	B-31 (Kanebo)	Taffeta (5 mm stripe)	58"/60"	95
3-4	MDF-110	B-31 (Kanebo)	1/2 twill (5 mm stripe)	58"/60"	112
3-5	MDF-302	B-31 (Kanebo)	2/2 twill (5 mm stripe)	58"/60"	102
3-6	MDF-125	B-31 (Kanebo)	2/3 twill (5 mm stripe)	58"/60"	118
3-7	MDF-303	B-31 (Kanebo)	Taffeta (8 mm stripe)	58"/60"	115
3-8	MDF-304	B-31 (Kanebo)	Taffeta (12 mm stripe)	58"/60"	112
3-9	MDF-190	B-31 (Kanebo)	1/2 twill (20 mm stripe)	58"/60"	107
3-10	MDF-306	F-901 (BASF)	Taffeta (2.5 mm check)	58"/60"	97
3-11	MDF-142	B-31 (Kanebo)	1/2 twill (4 mm check)	58"/60"	169
3-12	MDF-307	B-31 (Kanebo)	2/3 twill (4 mm check)	58"/60"	115
3-13	MDF-211	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	93
3-14	MDF-210	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	96
3-15	MDF-308	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	100
3-16	MDF-309	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	90
3-17	MDF-310	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	71
3-18	MDF-311	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	133
3-19	MDF-312	B-31 (Kanebo)	Taffeta (5 mm check)	58"/60"	104
3-20	MDF-199UT	B-31 (Kanebo)	Taffeta (5 mm stripe)	58"/60"	95
3-21	MDF-118	B-31 (Kanebo)	1/2 twill (5 mm check)	58"/60"	113
3-22	MDF-165	B-31 (Kanebo)	1/2 twill (5 mm check)	58"/60"	119
3-23	MDF-313	B-31 (Kanebo)	1/2 twill (5 mm check)	58"/60"	105
3-24	MDF-314	B-31 (Kanebo)	2/1 twill (5 mm check)	58"/60"	102
3-25	MDF-315	B-31 (Kanebo)	2/2 twill (5 mm check)	58"/60"	108
3-26	MDF-316	B-31 (Kanebo)	2/2 twill (5 mm stripe)	58"/60"	148
3-27	MDF-127	B-31 (Kanebo)	2/3 twill (5 mm check)	58"/60"	119
3-28	MDF-130	B-31 (Kanebo)	2/3 twill (5 mm check)	58"/60"	107
3-29	MDF-148	B-31 (Kanebo)	2/3 twill (5 mm check)	58"/60"	115
3-30	MDF-317	B-31 (Kanebo)	Taffeta (6 mm check)	58"/60"	140
3-31	MDF-164	B-31 (Kanebo)	1/2 twill (7 mm check)	58"/60"	120
3-32	MDF-318	B-31 (Kanebo)	Rib (7 mm check)	58"/60"	110
3-33	MDF-146	B-31 (Kanebo)	1/2 twill (8 mm check)	58"/60"	151
3-34	MDF-149	B-31 (Kanebo)	1/2 twill (8 mm check)	58"/60"	182
3-35	MDF-305	B-31 (Kanebo)	2/2 twill (Tartan check)	58"/60"	160
3-36	MDF-319	B-31 (Kanebo)	2/2 twill (Variative)	58"/60"	130
3(new)	MDF-336	B-31 (Kanebo)	Taffeta (5mm check)	58"/60"	85
3(new)	MDF-307R	B-31 (Kanebo)	2/3 twill (4mm check)	58"/60"	115
3(new)	MDF-199UTR	B-31 (Kanebo)	Taffeta (5mm weft stripe)	58"/60"	95
▼ Non-ESD Fabric					
5-1	MDF-216	Non	Herringbone twill	58"/60"	140
5-2	MDF-215	Non	Taffeta	58"/60"	89
5-3	MDF-217	Non	1/2 twill	58"/60"	151
5-4	MDF-199Micro	Non	Taffeta	58"/60"	95
5-5	MDF-218	Non	Taffeta	58"/60"	92
5-6	MDF-219	Non	Taffeta	58"/60"	145