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# **Protective Apparel**

**Optimising Protection and Permeation**

IDP's range of protective coveralls protects from a varied range of Medical Hazards. Working all day in a coverall can get uncomfortable and finding the right level of protection while balancing the need for comfort is not easy.

IDP has worked on various options for protective medical suits & following is the Index for the options available.

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# PPE Overall PC-6533 Technical Datasheet

## Made From Fabric Meeting ISO 16603 Class 3 Requirements

PPE Overall PC-6533 is designed for environments involving long hours of work and requiring protection against dusts and light liquid splashes, ie. situations that cover all auxiliary and peripheral level activities in infection protection and sanitation.

### Key Features :

- Unique Multi Layered (**SMS Type**) Non-Woven Fabric PP featuring micro pore filtration layers sandwiched between strong outer layers.
- Fabric Sourced from ISO, GMP and OHSAS certified manufacturer
- Unique combination of Materials in Fabric providing optimum combination of **BFE Protection** and **Breathability**.
- Serged seaming and elasticated waist, ankles, and wrists for convenience and freedom of movement.
- Two-way zipper with storm flap for convenience and additional protection

### Protection Level :



**Liquid Protection** Type 6 - Light Liquid Splashes (EN 13034:2005)



**Dust Protection** Type 5 - Solid Airborne Particulates (EN ISO 13982-1:2004)



**Biological Protection** Class 3 - Synthetic Blood Penetration Resistance (EN ISO 16603:2004)



**Breathable** Class 3 - Resistance to Water Vapour (EN ISO 11092:2014)

### Materials :

**Suit** Polypropylene Layered Fabric  
**Zipper** CFC Braided Two Way Sliders With Storm Flap  
**Elastic** Neoprene Rubber and Polyester  
**Thread** Polyester

This product does not contain components made from natural rubber latex.

### Sizing :

An appropriate size garment should be selected to allow sufficient movement for the task whilst maintaining a secure fit.

	Height	Chest
S	66 – 69 in / 167 – 176 cm	36 – 39 in / 92 – 100 cm
M	69 – 71 in / 174 – 181 cm	39 – 43 in / 100 – 108 cm
L	70 – 74 in / 179 – 187 cm	43 – 45 in / 108 – 115 cm
XL	73 – 76 in / 186 – 194 cm	45 – 49 in / 115 – 124 cm



### Applications and Performance :

<b>Non-Hazardous Particulates</b>	Yes	<b>Light Liquid Splash</b>	Yes if chemical is compatible with suit material
<b>Non-Hazardous Liquid Splash</b>	Yes	<b>Heavy Splash/ Liquid Spray</b>	No
<b>Hazardous Dusts and Fibres</b>	Yes	<b>Organic Solvents</b>	No
<b>Liquid Continuous Contact/ Immersion</b>	No	<b>Acids/Alkalis</b>	Yes if chemical is compatible with suit material
<b>Gases and Vapours</b>	No		

**Typical applications may include :** Health Care Facilities, Light Duty/Dry Sanitation, pharmaceutical, general industrial clean-up, general powder handling and food processing. In all cases, a risk assessment should be carried out. Always read product user information. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional.

The table below shows the performance of this product when tested under laboratory conditions. Please note that the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Test Method	UoM	Result
Basis Weight	NWSP 130.1	GSM	60
Tensile Strength MD	NWSP 110.4	N/5cm	120
Tensile Strength CD	NWSP 110.4	N/5cm	60
Elongation MD	NWSP 110.4	%	55
Elongation CD	NWSP 110.4	%	65
Air Permeability	NWSP 70.1	l/m2/sec	140
Resistance to Liquid Penetration @ 60 mbar	NWSP 80.6	cmWc	95
BFE	ASTM:F2101-19	%	>95
Blood Penetration Resistance Test	ISO 16603	--	Class 3

# PPE Coverall PC-4542 Technical Datasheet

## 360° Hood with Gusset Providing Added Layer of Particulate Barrier in Absence of N95 Respirator\*

PPE Coverall PC-4542 is our most versatile PPE Coverall that is the first choice for a host of environments with liquid chemical threats.

### Key Features :

- Unique Multi Layered Non-Woven Fabric PP featuring membrane lamination.
- Fabric Sourced from ISO, GMP and OHSAS certified manufacturer
- Membrane Lamination provides beneficial combination of **Water Pressure Penetration** and **Breathability**.
- Liquid-tight seams by use of sealing tape overlay over seam elasticated waist, ankles, and wrists for convenience and freedom of movement.
- Two-way zipper with sealable storm flap for convenience and additional protection
- Overall Protection with Gusseted Hood

### Protection Level :



**Liquid Protection** Type 4 - Liquid Spray (EN 14605-2005+A1:2009)



**Dust Protection** Type 5 - Solid Airborne Particulates (EN ISO 13982-1:2004)



**Biological Protection** Class 4 - Synthetic Blood Penetration Resistance (EN ISO 16603:2004)



**Breathable** Class 2 - Resistance to Water Vapour (EN ISO 11092:2014)

### Materials :

**Suit** Polypropylene Layered Fabric with Membrane Lamination  
**Zipper** CFC Braided Two Way Sliders With Storm Flap  
**Elastic** Neoprene Rubber and Polyester  
**Thread** Polyester

This product does not contain components made from natural rubber latex.  
 \*This is not a replacement of N95 masks. Users to exercise their own discretion if using this without N95 based on the risk factors exposed to.

### Sizing :

An appropriate size garment should be selected to allow sufficient movement for the task whilst maintaining a secure fit.



	Height	Chest
S	66 – 69 in / 167 – 176 cm	36 – 39 in / 92 – 100 cm
M	69 – 71 in / 174 – 181 cm	39 – 43 in / 100 – 108 cm
L	70 – 74 in / 179 – 187 cm	43 – 45 in / 108 – 115 cm
XL	73 – 76 in / 186 – 194 cm	45 – 49 in / 115 – 124 cm

### Applications and Performance :

<b>Non-Hazardous Particulates</b>	Yes	<b>Light Liquid Splash</b>	Yes if chemical is compatible with suit material
<b>Non-Hazardous Liquid Splash</b>	Yes	<b>Heavy Splash/ Liquid Spray</b>	Yes if chemical is compatible with suit material
<b>Hazardous Dusts and Fibres</b>	Yes	<b>Organic Solvents</b>	No
<b>Liquid Continuous Contact/ Immersion</b>	Yes	<b>Acids/Alkalis</b>	Yes if chemical is compatible with suit material
<b>Gases and Vapours</b>	No		

**Typical applications may include :** Hospital OT, Healthcare, Chemical Mixing, Insecticide Spraying and Paint Spraying. In all cases, a risk assessment should be carried out. Always read product user information. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional.

The table below shows the performance of this product when tested under laboratory conditions. Please note that the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Test Method	UoM	Result
Basis Weight	NWSP 130.1	GSM	90
Tensile Strength MD	NWSP 110.4	N/5cm	135
Tensile Strength CD	NWSP 110.4	N/5cm	75
Elongation MD	NWSP 110.4	%	60
Elongation CD	NWSP 110.4	%	65
Air Permeability @ 125Pa	NWSP 70.1	l/m <sup>2</sup> /sec	220
Hydrohead 3rd Drop	NWSP 80.6	mmWC	625
BFE	ASTM:F2101-19	%	>95
Blood Penetration Resistance Test	ISO 16603	--	Class 4

# PPE Coverall PC-3561 Technical Datasheet

## Highest Level of BioHazard Protection – Approved By DRDO

PPE Coverall PC-3561 is our frontline product that can be customised for a host of special requirements such as FR, Anti-Static, Nuclear Radiation, etc.

### Key Features :

- Light Weight High Tenacity Polyamide Fabric with PU Coating for Water Proofness.
- Fabric that withstands extreme operating environment temperatures with same reliability.
- Woven Fabric+PU coating provides best alternative to choose for Water Proofing Protection.
- Liquid-tight seams by use of sealing tape overlay over seam elasticated waist, ankles, and wrists for convenience and freedom of movement.
- Two-way zipper with sealable storm flap for convenience and additional protection
- Overall Protection with attached Hood and Boot Leggings

### Protection Level :



**Liquid Protection** Type 3 – Unidirectional Liquid Jet (EN 14605-2005+A1:2009)



**Dust Protection** Type 5 - Solid Airborne Particulates (EN ISO 13982-1:2004)



**Biological Protection** Class 6 - Synthetic Blood Penetration Resistance (EN ISO 16603:2004)



**Breathable** Class 1 - Resistance to Water Vapour (EN ISO 11092:2014)

### Materials :

**Suit** Nylon Woven With PU Coating  
**Zipper** CFC Braided Two Way Sliders With Storm Flap  
**Elastic** Neoprene Rubber and Polyester  
**Thread** Polyester

This product does not contain components made from natural rubber latex.

### Sizing :

An appropriate size garment should be selected to allow sufficient movement for the task whilst maintaining a secure fit.



	Height	Chest
S	66 – 69 in / 167 – 176 cm	36 – 39 in / 92 – 100 cm
M	69 – 71 in / 174 – 181 cm	39 – 43 in / 100 – 108 cm
L	70 – 74 in / 179 – 187 cm	43 – 45 in / 108 – 115 cm
XL	73 – 76 in / 186 – 194 cm	45 – 49 in / 115 – 124 cm

### Applications and Performance :

<b>Non-Hazardous Particulates</b>	Yes	<b>Light Liquid Splash</b>	Yes if chemical is compatible with suit material
<b>Non-Hazardous Liquid Splash</b>	Yes	<b>Heavy Splash/ Liquid Spray</b>	Yes
<b>Hazardous Dusts and Fibres</b>	Yes	<b>Organic Solvents</b>	No
<b>Liquid Continuous Contact/ Immersion</b>	Yes	<b>Acids/Alkalis</b>	Yes if chemical is compatible with suit material
<b>Gases and Vapours</b>	Yes		

**Typical applications may include :** Emergency Medical Response, Bulk Chemical Handling/Transfer and Sewage and Sanitation. In all cases, a risk assessment should be carried out. Always read product user information. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional.

The table below shows the performance of this product when tested under laboratory conditions. Please note that the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Test Method	UoM	Result
Basis Weight	IS 1964-	GSM	60
Tensile Strength Warp	IS 7016	kgf	45
Tensile Strength Weft	IS 7016	kgf	40
Water Penetration	IS 7016	mm/min	300/30
Water Repellency	IS 390	%	>80
Operating Temp	IS 7016	°C	-40 to +70
Flexing Resistance	IS 7016	Cycle	30000
Blood Penetration Resistance Test	ISO 16603	--	Class 6



# PPE Overall PC-6532 Technical Datasheet

## High Levels of Bio Hazard Protection with breathable back panel.

PPE Overall PC-6532 aims to combine the best of both worlds – A broad spectrum protection with higher donning period. It can be used for almost all application areas where slightly less levels of Biohazard is expected vis-à-vis the BIO-H recommended areas

### Key Features :

- Light Weight High Tenacity Polyamide Fabric with PU Coating for Water Proofness, with Breathable Back Panel of SMS fabric
- Fabric that withstands extreme operating environment temperatures with same reliability.
- Woven Fabric+PU coating provides best alternative to choose for Water Proofing Protection.
- Flexible yet protective seams by use of bound serged seams. Choice of Polyester Knitted Cuff in Ankles and Wrists for comfort. Elastic at the Waist for freedom of movement.
- Two-way zipper with sealable storm flap for convenience and additional protection
- Overall Protection with attached Hood

### Protection Level :



**Liquid Protection** Type 6 - Light Liquid Splashes (EN 13034:2005)



**Dust Protection** Type 5 - Solid Airborne Particulates (EN ISO 13982-1:2004)



**Biological Protection** Class 3 - Synthetic Blood Penetration Resistance (EN ISO 16603:2004)

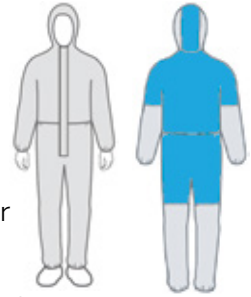


**Breathable** Class 2 - Resistance to Water Vapour (EN ISO 11092:2014)

### Materials :

**Suit** Nylon Woven With PU Coating  
**Zipper** CFC Braided Two Way Sliders With Storm Flap  
**Elastic** Neoprene Rubber and Polyester  
**Thread** Polyester

This product does not contain components made from natural rubber latex.



### Sizing :

An appropriate size garment should be selected to allow sufficient movement for the task whilst maintaining a secure fit.

	Height	Chest
S	66 – 69 in / 167 – 176 cm	36 – 39 in / 92 – 100 cm
M	69 – 71 in / 174 – 181 cm	39 – 43 in / 100 – 108 cm
L	70 – 74 in / 179 – 187 cm	43 – 45 in / 108 – 115 cm
XL	73 – 76 in / 186 – 194 cm	45 – 49 in / 115 – 124 cm

### Applications and Performance :

<b>Non-Hazardous Particulates</b>	Yes	<b>Light Liquid Splash</b>	Yes if chemical is compatible with suit material
<b>Non-Hazardous Liquid Splash</b>	Yes	<b>Heavy Splash/ Liquid Spray</b>	Yes if chemical is compatible with suit material
<b>Hazardous Dusts and Fibres</b>	Yes	<b>Organic Solvents</b>	No
<b>Liquid Continuous Contact/ Immersion</b>	Yes	<b>Acids/Alkalis</b>	Yes if chemical is compatible with suit material
<b>Gases and Vapours</b>	No		

**Typical applications may include :** Clean Room Environments. In all cases, a risk assessment should be carried out. Always read product user information. Use limitations and performance data should be considered to ascertain the protection required. If in doubt, contact a safety professional.

The table below shows the performance of this product when tested under laboratory conditions. Please note that the tests may not reflect the reality of use and do not account for factors such as excessive heat and mechanical wear.

Test	Test Method	UoM	Result
Basis Weight	IS 1964-	GSM	60
Tensile Strength Warp	IS 7016	kgf	45
Tensile Strength Weft	IS 7016	kgf	40
Water Penetration	IS 7016	mm/min	300/30
Water Repellency	IS 390	%	>80
Operating Temp	IS 7016	°C	-40 to +70
Flexing Resistance	IS 7016	Cycle	30000
Blood Penetration Resistance Test	ISO 16603	--	Class 3

### Storage and Disposal :

- Store in dry, clean conditions in original packaging, away from direct sunlight, sources of high temperature, and solvent vapours
- Store within the temperature range -20°C to +25°C (-4°F to +68°F) and with relative humidity below 80%
- Expected shelf life is three years from date of manufacture when stored as stated.
- Replace garments if damaged, heavily contaminated or in accordance with local work practice or regulations
- Handle and dispose of contaminated garments with care and in accordance with applicable regulations

### Limited Use :



**Do not wash**



**Do not dry clean**



**Do not bleach**



**Flammable - keep away from sparks or flames**



**Do not iron**



**Single Use - do not re-use**



**Do not tumble dry**

### Warnings and Limitations :

**Before use read and understand all user instructions and be sure that the product is suitable for the application and fitted correctly. Product must never be altered or modified.**

### Do not use for :






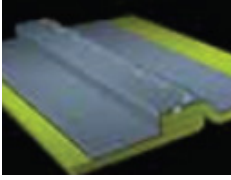

- Contact with heavy oils, sparks or flame, or combustible liquids;
- Environments with high mechanical risks (abrasions, tears, cuts);
- Contact with hazardous substances beyond the Type garment is appropriate for
- Environments with conditions of excessive heat.

### Important Notice and Limitation of Liability :

This Leaflet is only a product outline and cannot be construed as a base for decision to confirm suitability of use in intended environment. The user is advised to follow respective country specific legislation and consult applicable safety professional before choosing to use the product. Final decision and confirmation regarding suitability of the above product for the task undertaken by the personnel is the employer's responsibility.

IDP Pvt Ltd shall not be liable or responsible for any loss or damage, whether direct, indirect, incidental, special or consequential arising out of the sale, use or misuse of the above products, or the user's inability to use such products.

## IDP Comparison Table

<b>Model Photo</b>				
<b>Model Name</b>	<b>PC-6533</b>	<b>PC-4542</b>	<b>PC-3561</b>	<b>PC-6532</b>
<b>Description</b>	Protection From Bio Hazard Aerosol Droplets and Dust Particles	Class 4 Level Protection From Bio Hazard Liquid Penetration while providing breathability	Highest Level Protection From Bio Hazard Liquid Penetration	Combination of PC-3561 and PC-6533 in Back Panel for reduced Heat Stress
<b>Coverall Design</b>	With Attached Hood	With Separate Gusseted Head Cover	With Attached Hood and Boot Leggings	Bio-H without Boot Leggings + Breathable Back Panel
<b>Fabric</b>	5 Layered SMS	5 Layered SMS With Membrane	Polyamide Fabric With PolyUrethane Coating	Polyamide Fabric With PolyUrethane Coating +5 Layered SMS Back Panel
<b>Seam Construction</b>				
	Serged	Taped	Taped	Serged+Bound
<b>Cuffs</b>	Elastic within Body Fabric	Elastic within Body Fabric	Elastic within Body Fabric	Knitted Polyester
<b>Zipper</b>	Two Way with Storm Flap	Two Way with Sealable Storm Flap	Two Way with Sealable Storm Flap	Two Way with Storm Flap
<b>Hood</b>	One Piece	Two Piece	Two Piece	Three Piece with Breathable Central Panel
<b>Addons</b>	Anti Static	Anti Static	FR Treatment	Anti Static



Model Name			PC-6533	PC-4542	PC-3561	PC-6532
<b>EN 14126- Key Performance Parameters With Respect to Protective Ability Against Infective Agents</b>			<b>Type 6</b>	<b>Type 4</b>	<b>Type 3</b>	<b>Type3/ Type 6</b>
BS EN 13034:2005+A1:2009 Protective clothing against liquid chemicals tested as per ISO 6530	<b>Class</b>	<b>Penetration / Repellency</b>				
	3	<1% / >95%	●	●	●	●
	2	>1% and <5% / >90% and <95%				
	1	>5% and <10% / >80% and <90%				
EN ISO 11092:2014 Textiles — Measurement of thermal and water-vapour resistance	<b>Class</b>	<b>Ret Values</b>				
	3	< 20	●			●
	2	> 20 < 40		●		
	1	> 40			●	●
Screening pressure test : Resistance to penetration by blood and body fluids using synthetic blood - ISO16603	<b>Class</b>	<b>Exposure pressure (kPa)</b>				
	6	20			●	●
	5	14		●		
	4	7				
	3	3.5	●			●
	2	1.75				
	1	0				
Resistance penetration by blood-borne pathogens using a bacteriophage ("virus" penetration simulation)- ISO16604 Procedure D	<b>Class</b>	<b>Exposure pressure (kPa)</b>				
	6	20			●	●
	5	14		●		
	4	7				
	3	3.5				●
	2	1.75				
	1	0				

**Legend :**

Product Values = ●

For Back Panel = ●



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**Address :**

Factory 1 –  
D 21 Panki Industrial Estate  
Site -1 Kanpur - 208002

Factory 2 –  
140-141 Ecotech -3 Greater  
Noida - 201306

**General Contact :**

+91 0120 6857778  
+91 9810660782

**Website** - [www.idppl.in](http://www.idppl.in)

**Email** - [info@idppl.in](mailto:info@idppl.in)