Valutek Pigment Free Nitrile 12” Glove

NanoTek
ISO 3-4 (Class 1-10)

Part Number: VTGNCRBTIO2F12

VTGNCRBTIO2F12 Valutek’s 12” ambidextrous nitrile cleanroom bagged glove is constructed from 100% clean, synthetic nitrile polymer containing no rubber latex with a unique pigment free formulation.

In order to develop the most chemically pure nitrile material, Valutek has removed all color pigment— the source of a known contaminant, Titanium Dioxide (TiO2) — from this specific formulation.

The result is a cleaner, translucent glove with enhanced performance and operator comfort.

Features

- ‘’Accelerator Free’’ which eliminates known allergens
- ‘’Filler Free’’ which enhances ESD properties and tensile strengt
- ‘’Pigment Free’’ with no TiO2 hard particles

Application

In addition to the standard textured fingertip and beaded long cuff design, the “zero additive” formulation offers the ultimate in user comfort; it is soft and flexible, with a tack level that makes it suitable for both wet and dry applications in the most sensitive controlled environments.

Unlike most traditional clean nitrile gloves that are stiff with a slick finish, this next-generation glove is both ultra-clean yet moderately soft and operator friendly.

Now that modern detection methods—Scanning Electron Microscopy—identify common pigments titanium dioxide as a source of defects and reduced yield in certain semiconductor, advanced microelectronic, and nanofabrication environments, this glove is explicitly engineered to meet these needs without jeopardizing operator dexterity and comfort.

As part of the Valutek Nanotek product family, this cleanroom packaged glove is recommended for use in a cleanroom Class 1-10 (ISO 3-4) critical environment.

All Valutek gloves are tested and manufactured in ISO-compliant facilities under Valutek inspection and strict process control to ensure Valutek quality standards and product specifications.

Packaging

- The outer bag contains an inner bag with 2 stacks of 50 gloves.
- Gloves packaged cuffs on the bottom, vacuum sealed, flat packed, and with a carton liner.
- 100 ea/bag, 10 bags/case, 1000 ea/case.
- Critical environment compatible.
- All gloves are lot traceable with retention samples held in **Quality Control for 36 months** from the date of manufacturing.

Valutek Pigment Free Nitrile Clenroom 12'' Glove

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VTGNCRBTIO2F12 Physical Properties

Part Number	Size	Palm Width (mm)	Weight (gm)	Length (inch/mm)	Test Method
VTGNCRBTIO2F12-XS	XS	75 ± 5	5.5 ± 0.2		
VTGNCRBTIO2F12-SM	SM	85 ± 5	6.0 ± 0.2		IEST-RP-CC005.4
VTGNCRBTIO2F12-MD	MD	95 ± 5	6.5 ± 0.2	12''/290	ASTM D3767
VTGNCRBTIO2F12-LG	LG	105 ± 5	7.0 ± 0.2		
VTGNCRBTIO2F12-XL	XL	115 ± 5	7.5 ± 0.2		
VTGNCRBTIO2F12-2X	2X	125 ± 5	8.0 ± 0.2		

Tensile Properties	Tensile Strength	Ultimate Elongation	Test Method
Before Aging	18 MPa, min	500%, min	ASTM D412
After Aging	16 MPa, min	450%, min	

Measured Points	Thickness	Test Method
Fingertip	5.11 mil 0.13 mm, min	ASTM D6319
Palm	3.94 mil 0.10 mm, min	
Cuff	3.15 mil 0.08 mm, min	

Surface Texture	Friction	Test Method
Tackiness	< 200 gmf	ASTM D1894

*Barrier Integrity: AQL 1.5

VTGNCRBTIO2F12 Technical Performance

Attribute	Value	Units	Test Method
Particle Counts			
LPC: ≥0.5 m	<600	particles/cm²	IEST-RP-CC005.4, Sec 16.4
Non Volatile Residue (NVR)			
DI Water	<2.0	µg/cm²	IEST-RP-CC005.4, Sec 17.2
IPA	<5.0	µg/cm²	IEST-RP-CC005.4, Sec 17.2
FTIR			
Silicone Oil, Amide, DOP	Not Detected		IEST-RP-CC005.4, Sec 17
Pigment			
Titanium Dioxide (TiO2)	Absent		SEM-EDX – Stamping method
Endotoxin Level			
Limit: Max 20 EU/Glove Limit of Reporting (LOR) = 0.2 EU/Glove	≤ 20	EU/Glove	LAL Kinetic Turbidimetric, USP <85>
Extractable Counts (Ions)			
Sodium(Na)	<0.02 µg/cm²		
Potassium(K)	<0.02 µg/cm²		
Calcium(Ca)	<0.30 µg/cm²		
Magnesium(Mg)	<0.005 µg/cm²		
Ammonium(NH_4^+)	<0.005 µg/cm²		
Nitrate(NO3-)	<0.12 µg/cm²		
Lithium(Li)	<0.005 µg/cm²		
Zinc(Zn)	<0.07 µg/cm²		
Copper(Cu)	<0.0004 µg/cm²		
Fluoride(F^-)	<0.001 µg/cm²		IEST-RP-CC005.4, Sec 17
Bromide(Br^-)	<0.001 µg/cm²		
Phosphate(PO_4^{3-})	<0.002 µg/cm²		
Chloride(Cl^-)	<0.20 µg/cm²		
Sulfate(SO_4^{2-})	<0.06 µg/cm²		
Nitrite(NO_2^-)	<0.001 µg/cm²		
Aluminium(Al)	<0.01 µg/cm²		
Iron(Fe)	<0.005 µg/cm²		

ESD Properties	Value	Units	Test Method
Surface Resistivity	<1 X 10^{11}	Ohm/Square	ANSI/ESD SP15.1
Electrostatic Decay	<5	Sec	FTMS 101-C,4046
Tribo Charge	<50 V	V	In -house method

*Note: Technical data listed reflects upper/lower manufacturing specification limits. Certificates of Analysis available upon request for actual lot-to-lot test data. 36 month lot trend analysis available upon request

VALUTEK

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