

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 strength
- "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.



Gloves



Wipers



Apparel



Adhesive Mats



Cleaning & Maintenance



Documentation



Glove Liners



ESD



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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	Measured Points	Thickness	Test Method	Surface Texture	Friction	Test Method
Before Aging	18 MPa, min	500%, min	ASTM D412	Fingertip	5.11 mil 0.13 mm, min	ASTM D6319	Tackiness	< 200 gmf	ASTM D1894
After Aging	16 MPa, min	450%, min		Palm	3.94 mil 0.10 mm, min				
				Cuff	3.15 mil 0.08 mm, min				

*Barrier Integrity: AQL 1.5

VTGNCRBTIO2F12 Technical Performance

Attribute	Value	Units	Test Method
Particle Counts			
LPC: ≥0.5 m	<600	particles/cm ²	IEST-RP-CC005.4, Sec 16.4
Non Volatile Residue (NVR)			
DI Water	<2.0	µg/cm ²	IEST-RP-CC005.4, Sec 17.2
IPA	<5.0	µg/cm ²	IEST-RP-CC005.4, Sec 17.2
FTIR			
Silicone Oil, Amide, DOP	Not Detected		IEST-RP-CC005.4, Sec 17
Pigment			
Titanium Dioxide (TiO ₂)	Absent		SEM-EDX – Stamping method
Endotoxin Level			
Limit: Max 20 EU/Glove	≤ 20	EU/Glove	LAL Kinetic Turbidimetric, USP <85>
Limit of Reporting (LOR) = 0.2 EU/Glove			
Extractable Counts (Ions)			
Sodium(Na)	<0.02 µg/cm ²	Fluoride(F ⁻)	<0.001 µg/cm ²
Potassium(K)	<0.02 µg/cm ²	Bromide(Br ⁻)	<0.001 µg/cm ²
Calcium(Ca)	<0.30 µg/cm ²	Phosphate(PO ₄ ³⁻)	<0.002 µg/cm ²
Magnesium(Mg)	<0.005 µg/cm ²	Chloride(Cl ⁻)	<0.20 µg/cm ²
Ammonium(NH ₄ ⁺)	<0.005 µg/cm ²	Sulfate(SO ₄ ²⁻)	<0.06 µg/cm ²
Nitrate(NO ₃ ⁻)	<0.12 µg/cm ²	Nitrite(NO ₂ ⁻)	<0.001 µg/cm ²
Lithium(Li)	<0.005 µg/cm ²	Aluminium(Al)	<0.01 µg/cm ²
Zinc(Zn)	<0.07 µg/cm ²	Iron(Fe)	<0.005 µg/cm ²
Copper(Cu)	<0.0004 µg/cm ²		
ESD Properties			
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



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