

# **COMPARISON OF COATINGS**

**NITRILE FLAT (ADDED CRUMBS FOR NITRACHEM)**

**SPONGE/FLEX**

**MICRO FOAM (DS)**

**2NFT**

**12NFT**

**NITRILE LATEX WAVES PATTERN**

**HYDROPELLENT TECHNOLOGY (HPT)**

**PVC MULTI DIP**

**NATURAL RUBBER LATEX**

**BI-POLYMER (NITRILE/PU BLEND)**

**POLYURETHANE (PU)**

**NINJA® COMPARISON OF COATINGS**

COATING TYPES		NITRILE					
		Nitrile Flat (added Crumbs for Nitrachem)	Sponge/Flex	Micro Foam (DS)	2NFT	12NFT	Nitrile Latex Waves Pattern
COATING DESCRIPTION/ FEATURES		High resistance to abrasion (similar to PU), tacky finish, excellent dry grip FDA Approved	Sponge coating (chemically foamed) offers slightly better wet and oil grip than flat Nitrile.  It is softer and more flexible, however less soft and breathable than Air Foam Nitrile	Can be formulated thinner than Nitrile foam coating.  Micro foam coatings finish have a slightly tacky finish	Unique porous structure with suede finish on Nitrile coating. Offers good wet and oil grip  More elastic and form-fitting compared to other Nitrile coatings	Unique porous structure with suede finish over smooth finish (double layered) Nitrile coating. Oil/ glue does not permeate	Solvent free, "Waves" pattern structure, Nitrile Latex coating provides flexibility and highest resistance to abrasion  Excellent dry and wet grip with good oil grip
CHARACTERISTICS	Finish	Smooth	Smooth	Textured	Textured	Textured	Crinkle
	Weight	Medium weight	Medium weight	Light weight	Medium weight	Medium weight	Heavy weight
	Breathability	N/A	Fair Breathability	Very Good Breathability	Very Good Breathability	Good Breathability	Poor Breathability
	Flexibility	Good Flexibility	Good Flexibility	Very Good Flexibility	Very Good Flexibility	Good Flexibility	Fairly Flexible
GENERAL TEMPERATURE RANGES		25-300 degrees	25-300 degrees	less than 215 degrees preferred	Not available	Not available	25-300 degrees
GRIP	Dry	Excellent	Good	Good	Good	Good	Excellent
	Oil	Poor	Good	Good	Excellent	Good	Good
	Wet	Poor	Fair	Fair	Very good	Good	Good
LIMITATIONS		Poor breathability, less soft so faster hand fatigue, inherently soapy in wet environment	Ineherently soapy in wet environment and permeable	Ineherently soapy in wet environment and less permeable than Sponge Nitrile	Due to porous structure, moisture penetration is high  Lower abrasion resistance and durability compared to flat	Less flexible compared to 2NFT due to double coating	Less flexible, reduced tactility
EN 388 (COATING + 15GG POLYAMIDE LINER)	Abrasion Level	4	3	4	4	4	4
	Cycles	8000	2000	8000	8000	8000+	8000+
	Cut Level	1	1	1	1	1	1
	Index Value	1.6	1.7	1.38	1.7	1.7	1.8 - 2.1
	Tear Level	2	3	2	4	3	3
	Newton	42	60	45.5	110	59	60-62
	Puncture Level	1	2	2	1	1	1
Newton	48	61	60.1	35	40	56.7	
APPLICATION		Automotive, assembly, food packing, furniture manufacturing, pesticides, oil refining  Component materials are safe for food contact. Good for chemical applications	Automotive, construction, material handling, engineering, assembly, inspection/examination  Component materials are safe for food contact, but porous properties will allow bacteria to develop	Automotive, construction, material handling, engineering, assembly, inspect/examination  Moderate cool temperatures, where protection is still needed	Agriculture, material handling, packing, construction, furniture manufacturing, glass handling, bottling operations  Component materials are safe for food contact	Agriculture, material handling, packing, construction, furniture manufacturing, glass handling, bottling operations  Component materials are safe for food contact	"Waves" structure ideal for maximum dexterity, comfort. Automotive/ transport, aerospace, utilities
COATING WEARER TRIAL RESULTS	Manual Operation of Solvent Dipping - Hrs				18 hours		
	Manual Operation of Compound Dipping - Hrs	20 hours	17 hours		26+ hours	26+ hours	
	Lift Loading Operation - Hrs				26+ hours		
	Tyre Changing Workshop - Days	20+ days			8 days		60 days
	Engineering Workshop - Days				12 days		
NINJA STYLES		TBA	TBA	TBA	TBA	TBA	TBA

**NINJA® COMPARISON OF COATINGS**

COATING TYPES		PVC		Natural Rubber Latex	Bi-Polymer	Polyurethane (PU)
		Hydrepellent Technology (HPT™)	PVC Multi Dip	Natural Rubber Latex	Bi-Polymer (Nitrile/PU Blend)	Polyurethane (PU)
COATING DESCRIPTION/ FEATURES		Extremely durable, flexible, sponge touch, anti-vibe finish. Excellent wet grip, minimal tackiness. REACH/Prop 65 Compliant	Liquid proof coating with good wet, dry, and oil grip Coating is tacky and rough for extra gripping power Chemical Resistance & REACH/ Pro 65 Compliant	Flexible, moderate tenacity coating, less resistant to abrasion compared to PU & Nitrile. Latex coating have minimal tackiness Excellent dry grip and good wet grip. FDA approved	Light weight with excellent flexibility Coating is slightly tacky for extra gripping power	Lightweight Flexible Durable Clean Non-tacky
CHARACTERISTICS	Finish	Textured	Particle/Rough	Crinkle	Smooth	Textured
	Weight	Heavy weight	Heavy weight	Heavy weight	Light weight	Light weight
	Breathability	Very Good Breathability	N/A	Poor Breathability	Good Breathability	Excellent Breathability
	Flexibility	Good Flexibility	Fair Flexibility	Excellent Flexibility	Excellent Flexibility	Excellent Flexibility
GENERAL TEMPERATURE RANGES		25-150 degrees	25-150 degrees	0-300 degrees	25-300 degrees	25-300 degrees
GRIP	Dry	Very Good	Excellent	Excellent	Very good	Good
	Oil	Good	Good	Not recommended	Good	Good
	Wet	Excellent	Excellent	Good	Not recommended	Good
LIMITATIONS		Suspect oil grip, marring/ smudging due to plasticizers on coating  Low resistance to heat	Marring/smudging due to plasticizers on coating  Reduced tactility	Sensitive to heat Poor oil/grease resistance  Can cause allergic reactions due to presence of latex proteins	Water can easily pass through High permeability Lower resistance to abrasion	Porous High permeability DMF levels
EN 388 (COATING + 15GG POLYAMIDE LINER)	Abrasion Level	4	4	3	2	4
	Cycles	8000	8000+	2500	500	8000
	Cut Level	1	1	1	1	1
	Index Value	1.3 - 1.5	1.5 - 1.7	1.6	1.7	1.7
	Tear Level	3	2	3	3	3
	Newton	55-80	24-49	57.5	54.4	65
	Puncture Level	1	1	1	1	1
	Newton	46-54	46-54	41.5	35.8	35
APPLICATION		Petrochemical industry, shipping and receiving, plumbing, general construction	Long lasting, well suited to a variety of applications such as high dexterity, good oil grip, best wet & dry grip  Good for chemical applications	Agriculture, material handling, packing, construction, furniture, manufacturing, glass handling, bottling operations  Component materials are safe for food contact	Automotive, engineering, electronics, maintenance, inspection, packaging  Component materials are safe for food contact, but porous properties will allow bacteria to develop	Detailed assembly, inspection, light fabrication and small parts handling, general purpose
COATING WEARER TRIAL RESULTS	Manual Operation of Solvent Dipping - Hrs					16 hours
	Manual Operation of Compound Dipping - Hrs			17 hours	20 hours	18 hours
	Lift Loading Operation - Hrs					20+ hours
	Tyre Changing Workshop - Days	30 days		20 days		15 days
	Engineering Workshop - Days	2 days (stopped/sweaty)		2 days (stopped/sweaty)		26 days
NINJA STYLES		TBA	TBA	TBA	TBA	TBA