

WARRIOR™ ANTIVIRAL/ ANTIMICROBIAL COATINGS & CLEANERS



A COVID-19 Research Consortium Funded Product

Biotechnology Industry Research Assistance Council

A Government of India Enterprise



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WARRIOR™ UNIVERSAL SURFACE SHIELD

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Key Features of Warrior™ Universal Surface Shield

- *Broad spectrum antiviral and antimicrobial action*
- *Hydrophobic*
- *Quick and easy application*
- *Easier and faster cleaning*
- *Excellent color & gloss retention*
- *Tough, abrasion, resistant top coat*
- *Scratch resistance*
- *Smooth finish with gloss*
- *Easy2clean*
- *Good Durability*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-PW3-L RN-PW3-M RN-PW3-H	Slight Significant Strong	150- 200	1 5 20	All metals , Glass and Ceramic, Wood , Stone, Plastics

WARRIOR™ SILVER SURFACE SHIELD

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Key Features of Warrior™ Silver Surface Shield

- *Broad spectrum antiviral & antimicrobial action*
- *Good resistance to chemicals & polluted environments*
- *Dirt repellent and easy to clean*
- *Extreme temperature resistance*
- *Excellent color & gloss retention*
- *Excellent Scratch protection*
- *Good UV-protection*
- *Extremely durable*
- *Hydrophobic*
- *Perfect finish*
- *Easy-to-apply*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-VW3-L	Slight	1500- 2000	1	All glass, ceramic and polished natural stone
RN-VW3-M	Significant		5	
RN-VW3-H	Strong		20	

WARRIOR™ MICROBIAL Ag⁺ SHIELD

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Key Features of Warrior™ Microbial Ag⁺ Shield

- *Broad spectrum antiviral/ antimicrobial action*
- *Anti-static, less build-up of dust & dirt*
- *Good gloss & filling of micro scratches*
- *Smooth finish with gloss*
- *Easier and faster cleaning*
- *Quick and easy application*
- *Anti-stick property*
- *Hydrophobic*
- *Easy2clean*
- *Good durability*
- *Long-lasting*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-AW3-L	Slight	150- 200	1	All metals , Glass and Ceramic, best for Internal Usage
RN-AW3-M	Significant		5	
RN-AW3-H	Strong		20	

WARRIOR™ MICRO SURFACE SHIELD

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Key Features of Warrior™ Micro Surface Shield

- *Broad-spectrum antiviral/antimicrobial action*
- *Anti-static, less build-up of dust & dirt*
- *High gloss & filling of micro scratches*
- *Excellent adhesion*
- *Good Hydrophobic*
- *Smooth finish with gloss*
- *Quick and easy application*
- *Easier and faster cleaning*
- *Good mechanical strength*
- *Easy2clean*
- *Good Durability*
- *long-lasting*
- *Scratch resistance*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-EW3-L	Slight	150- 200	1	All metals , Glass and Ceramic, Wood, Stone, Concrete, Painted Surface
RN-EW3-M	Significant		5	
RN-EW3-H	Strong		20	

WARRIOR™ AQUAPERL SURFACE SHIELD

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Key Features of Warrior™ AquaPerl Surface Shield

- *Broad spectrum antiviral antimicrobial action*
- *Good resistance to chemicals & polluted environments*
- *Dirt repellent and easy to clean*
- *Extreme temperature resistance*
- *Excellent color & gloss retention*
- *Excellent Scratch protection*
- *Good UV-protection*
- *Extremely durable*
- *Hydrophobic*
- *Perfect finish*
- *Easy-to-apply*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-EPW3-L RN-EPW3-M RN-EPW3-H	Slight Significant Strong	1500- 2000	1 5 20	All glass, ceramic and polished natural stone, best for internal Usage

WARRIOR™ DURA Ag⁺ SHIELD

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Key Features of Warrior™ Dura Ag⁺ Shield

- *Broad-spectrum antiviral & antimicrobial action*
- *Good resistance to chemicals & polluted environments*
- *Dirt repellent and easy to clean*
- *Extreme temperature resistance*
- *Excellent color & gloss retention*
- *Hydrophobic and Non-Stick*
- *Graffiti and stain protection*
- *Scratch protection*
- *Corrosion prevention*
- *UV-protection*
- *The perfect finish*
- *Easy-to-apply*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-DW3-L RN-DW3-M RN-DW3-H	Slight Significant Strong	1500- 2000	1 5	All surfaces like metals, ceramics, leather, wood, glass, etc. For internal/external usage

WARRIOR™ CLEAR COAT

Ag⁺ SHIELD

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Key Features of Warrior™ Clear Coat Ag⁺ Shield

- **Broad-spectrum antiviral and antimicrobial action**
- **Good color & gloss retention**
- **Good UV-protection**
- **Good Durability**
- **Smooth finish**
- **Easy-to-apply**
- **Hydrophobic**
- **Slight oleophobic**
- **Very cost effective**
- **Easy to clean**
- **Dirt repellent**



Tests Conducted and Passed

- **Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)**
- **Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)**

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-Nco-L RN-Nco-M RN-Nco-H	Slight Significant Strong	1000- 1500	1 5	Non-absorbant, Solid surfaces

WARRIOR™ GERMI SHIELD CLEANER

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Key Features of Warrior™ Germi Shield Cleaner

- *Broad spectrum antiviral/ antimicrobial action*
- *Variety of surfaces covered with one product*
- *Longer durability time (3-4 days)*
- *Hydrophobicity*
- *Dirt repellent*
- *Gloss finish*
- *Easy application*
- *Smooth finish*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-NCI-L RN-NCI-M RN-NCI-H	Slight Significant Strong	1000- 1500	1 5	Non-absorbant, Solid surfaces

WARRIOR™ LTeX

Ag⁺ SHIELD

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Key Features of Warrior™ LTeX Ag⁺ Shield

- *Broad spectrum antiviral/ antimicrobial action*
- *Hydrophobic & slight oleophobic*
- *Dirt repellent & easy to clean*
- *Easy application*
- *Good durability*
- *Smooth finish*
- *Chemical weatherability*
- *Slight oil repellency*
- *Thermal stability*
- *UV Stability*



Tests Conducted and Passed

- *Antiviral Test for absorbent surfaces as per ISO: 18184 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for absorbent surfaces as per ISO:20743:2013 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-FW10-L RN-FW10-M RN-FW10-H	Slight Significant Strong	200- 300	1 5 20	All fabrics & leather surfaces, water based, best for Internal/external Usage

WARRIOR™ ADTL Ag⁺ SHIELD

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Key Features of Warrior™ ADTL Ag⁺ Shield

- *Broad spectrum antiviral/ antimicrobial action*
- *Hydrophobic & slight oleophobic*
- *Dirt repellent & easy to clean*
- *Easy application*
- *Good durability*
- *Smooth finish*
- *Chemical weatherability*
- *Slight oil repellency*
- *Thermal stability*
- *UV Stability*



Tests Conducted and Passed

- *Antiviral Test for non absorbent surfaces as per ISO: 21702 (99.99% SARS CoV-2 virus neutralization achieved)*
- *Antibacterial Test for non absorbent surfaces as per ISO:22196:2011 (99.9% bacterial kill efficiency achieved)*

Product Code	Variant	Coverage (SQ FT/ LT)	Pack Size (Litre)	Application e.g.
RN-ADW3-L RN-ADW3-M RN-ADW3-H	Slight Significant Strong	60 – 200*	1 5 20	All fabrics and leather surfaces, solvent based, best for Internal/external Usage

Where to use

Destroy all microbes from the surface and disinfect
immediately

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Offices



Hotels



Malls



Automobiles



Hospitals



Homes



*Education
institutes*



Railway



*Bus
station*

With unique characteristic of **non-toxicity** towards
procreate cells

Antiviral Activities

Test report for absorbent surfaces

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TEST CONDUCTED (AS REQUESTED BY THE APPLICANT)

1) Antiviral test ISO 18184

Name of the test

Anti-viral activities of the fabric surface

Name of test protocol:

ISO 18184-2019

Test Organisms used for evaluating Anti-viral activity:

1.SARS CoV-2

Test conditions:

Contact time : (0 min, 2 mins, 4 mins, 6 mins, 8 mins & 15 sec, 10 mins)

Incubation Temperature: 37°C for Virus

Media and Reagent : Agar media

Test Report -Anti-Viral Activities Coated Fabric Surface (Textile)-ABSORBENT

Antiviral activity of the surface SARS (CoV-2)	CFU control	CFU sample	Reduction / Difference	Percentage of Reduction of virus activities	Viral Activities (Qualitative)
Standard(un-coated)	4.52.x10 ⁵				
0 min (coated)		2.89X10 ⁵	0.19	36.06%	Viral activity found
2 mins (coated)		1.34x10 ⁵	0.53	70.35%	Viral activity found
4 mins (coated)		7.31X10 ⁴	0.79	83.82%	Viral activity found
6 mins (coated)	5.11x10 ⁵	4.09x10 ⁴	1.09	91.99%	viral activity found
8 mins & 15 sec (coated)		5.10x10 ¹	4.00	99.99%	No viral activity found
10 mins(coated)		-	5.70	100%	No viral activity found

Conclusion :

It is noted that no viral activities are found after 8 mins & 15 sec i.e. all virus (SARS CoV-2) killed / Neutralized. The coated material passes the test after 8 mins & 15 sec on Fabric surface tested as per given specification.

Antiviral Activities

Test report for non - absorbent surfaces

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TEST CONDUCTED (AS REQUESTED BY THE APPLICANT)

1) Antiviral test (ISO 21702:2019)

Name of the test

Anti-viral activities of the glass surface

Name of test protocol:

ISO 21702-2019

Test Organisms used for evaluating Anti-viral activity:

1."SARS CoV-2"

Test conditions:

Contact time : (0 min, 2 mins,4 mins,6 mins & 30 sec,8 mins ,10 mins)

Incubation Temperature: 37⁰ C for Virus

Media and Reagent : Agar media

Test Report -Anti-Viral Activities Of Coated Glass NON-ABSORBENT, Hard Surface

Antiviral activity of the surface SARS (CoV-2)	CFU control	CFU sample	Log Reduction / Difference	Percentage of Reduction of virus activities	Viral Activities (Qualitative)
(Standard uncoated)	7.18x10 ⁵				
0 Min (coated)	6.86x10 ⁵	4.12x10 ⁵	0.22	39.95%	Viral activity found
2 Mins (coated)		1.69x10 ⁵	0.60	75.36%	Viral activity found
4 mins (coated)		1.04x10 ⁵	0.82	84.83%	Viral activity found
6 mins & 30 sec (coated)	7.57x10 ⁵	7.50x10 ¹	4.00	99.99%	No Viral activity found
8 mins (coated)		7.50x10 ¹	4.00	99.99%	No Viral activity found
10 mins(coated)		-	5.87	100%	No Viral activity found

Conclusion :

It is noted that no viral activities are found after 6 mins & 30 sec i.e. all virus (SARS CoV-2) killed / Neutralized. The coated material passes the test after 6 mins & 30 sec on Glass surface tested as per given specification .

Antimicrobial Activities

Tested & Proved

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Sample:

BARE SAMPLE + REINSTE WARRIOR ANTIMICROBIAL & ANTIVIRAL COATING SAMPLE
CODE-RN-DW3-L

Certificate Number:

D200523008/D200523008-1

Date of test:

2-Jun-2020

Lab accreditation:

NABL (as per ISO/IEC 17025: 2005)

Results:

ANTIBACTERIAL ACTIVITY

1. TEST BACTERIA: Staphylococcus aureus ATCC 6538P

Quantitative Assessment of Activity -ISO:22196:2011				
B: WITHOUT AB: Conc. of inoculum on untreated sample at 0 hours (A): 2.2×10^8			Log=4.34	
B: WITHOUT AB: Conc. Of inoculum on untreated sample After 24hours (A): 6.5×10^5			Log=5.81	
Sample identification	No. Bacteria on treated sample (C)	Log of bacteria treated sample	Antimicrobial Activity (R) (log B-C)	Microbial kill (% Reduction)
A: WITH AB	330	2.58	3.29	99.9

2. TEST BACTERIA: Escherichia coli ATCC 8739

Quantitative Assessment of Activity - ISO:22196:2011				
B: WITHOUT AB: Conc. Of inoculum on untreated sample at 0 hours (A): 1.9×10^8			Log=4.53	
B: WITHOUT AB: Conc. Of inoculum on untreated sample After 24hours (A): 6.2×10^5			Log=5.85	
Sample identification	No. Bacteria on treated sample (C)	Log of bacteria treated sample	Antimicrobial Activity (R) (log B-C)	Microbial kill (% Reduction)
A: WITH AB	117	2.07	3.72	99.9

The Standard Antimicrobial value of Evaluation $R \geq 2.0$

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