



# Neutron



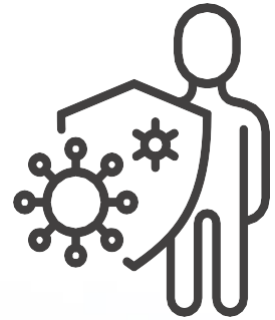
ANTI-VIRAL TEXTILE

## Who we are?

Ebruzen Tekstil is one of the leading companies in technical and functional fabrics as well as readymade workwear manufacturing field, for the last 16 years since starting its operations.

Our main manufacturing portfolio includes:

- Anti-Static fabric and workwear
- Flame Reterdant fabric and workwear
- Anti-Viral & Anti Microbial fabric and garment
- Cleanroom fabric and garment
- Industrial technical textile solutions



## What is Anti-Viral Textile?

Anti-viral application is a technology protecting your garments from enveloped virus and harmful bacteria and it keeps them constantly clean and fresh. This application creates a nano-level protecting shield on the surface of fabric. The layer attaches to the fabric via high levels of molecular bond, therefore would not be wiped out from the surface after hundreds of washes or by simply touching to it. The shield on the surface will wipe out surface film of certain types of virus and harmful microorganisms, exterminating them once they are in contact with the fabric surface.



NEUTRON provides high-tech textile products with antiviral and antimicrobial application, suitable for daily use and several sectoral and industrial purposes.

NEUTRON, Ebruzen Tekstil's antiviral fabric and workwear brand.

## THIS IS A BATTLE!

The pandemic caused by SARS-CoV-2 (Covid-19) virus has been threatening health and welfare conditions on a global scale, causing one of the most deeply felt recessions on recent memory.

Our mission is to support all on this fight to go on with our lives; we support the fight against the pandemic with our research and scientific approach.

A result of our constant research and development, our brand new NEUTRON Anti-Viral fabric has been tested to EN18184-2019 standards with SARS-CoV-2. According to the verified results, NEUTRON successfully eradicated 99.99% of SARS-CoV-2 virus on the surface within the first 2 hours of testing. All development and testing procedure has been coordinated with some of the most courageous and top ranking scientists. NEUTRON, our new defense instrument against SARS-CoV-2.

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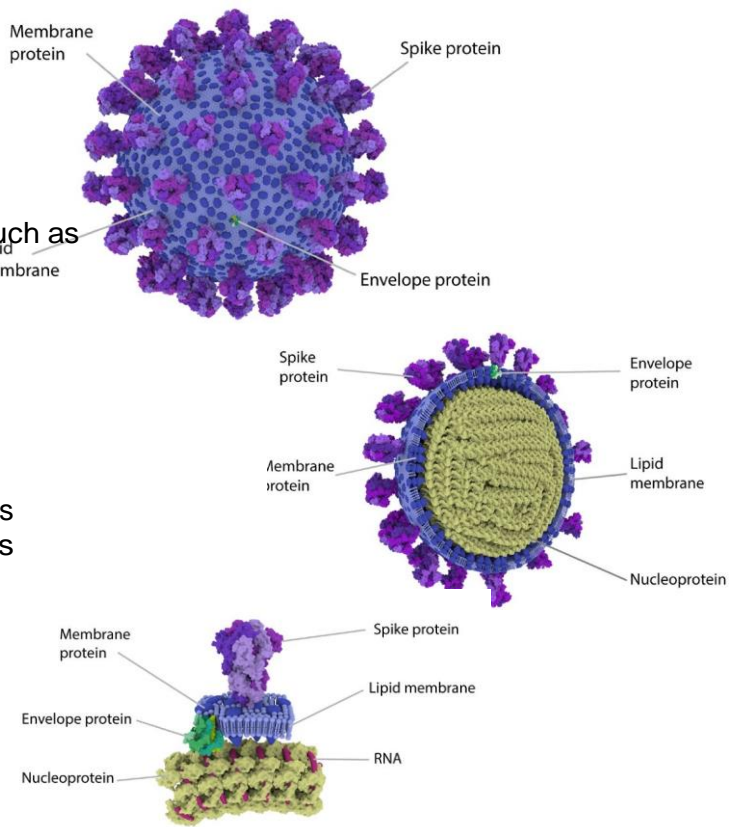
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# How does NEUTRON exterminate the SARS-CoV-2 ?

NEUTRON does not utilize any heavy metals such as silver or copper while eradicating the virus on fabric surface. Neutron technology is permanently fixed to the fabric surface and it does not migrate to the skin or environment so it does not harm human health or environment.

NEUTRON fabric surface mechanically eradicates lipid membran on the virus skin and ends virus activation permanently. Once left without the the skin, envelope virus activity stops thanks to its vital lifeline gone by NEUTRON's hightech antiviral efficacy.

SARS-CoV-2 virus and similar are "passive living" organizms with lipid based membrane structure. NEUTRON's technology attacks and eradicates envelope virus lipid structure. The action could be described as virus key to the cell lock being lost therefore virus cannot open the cell lock hence wiping itself out of the surface.



## What are the advantages of NEUTRON?

NEUTRON Anti-Viral fabric is suitable to be used in various applications such as washable facemasks, workwear, daily garments, medical bed sheets, curtains fabric, furniture surfaces and all kind of apparel that is part of our lives and also suitable for several sectoral and industrial purposes.

In ready-made clothing sector, now all kinds of clothing merchandise would be able to possess antiviral quality thanks to our groundbreaking fabric. Apparel made of NEUTRON antiviral fabric will be able to keep their antiviral features even after more than twenty consecutive washes. In addition, there would be no difference to the feel, appearance or structure of the fabric we all been accustomed to see in our garments. Only difference now will be the SARS-CoV-2 free surface function to your favorite dress or shirt. Even after hundreds of washes, your clothes will possess antiviral function.

- Tested against SARS-CoV-2, proven lasting effect.
- Eliminates viral activity by 99.99% in 2 hours of the first contact.
- Thanks to Anti-Microbial function, exterminates harmful bacteria, maintains hygiene of the garment.
- Decreases secondary infection risk.
- Effect will not fade away up to after twenty successive washes.
- Has no odor or color, improves surface comfort of the textile.
- Meets European Biocidal Products Regulation.
- Conforms to Turkish Biocidal Product Directive.
- Conforms to Oeko-Tex 100 standard.

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# The first fabric tested with SARS-CoV-2 in Turkey: NEUTRON

Result of constant and intensive R & D process, our Anti-Viral fabric has been tested to EN 18184-2019 standards, to be tested first among its kind in Turkey.

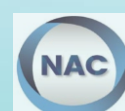
EN 18184-2019: Determination of antiviral activity of textile products.

NEUTRON, has been tested at a institute which is accredited by ISO/IEC Standard 17025:2017 TURKAK and ISO/IEC Standard 17025:2017 NAC.

NEUTRON, a precious gift to humanity from esteemed engineers and scientist of Turkey...

	Sample	Log TCID50		Result
		Result	Average	
Contact Time 2 hour	Control Fabric 1	5,17	5,17	R= 4,34
	Control Fabric 2	5,17		
	Control Fabric 3	5,17		
	Test Fabric 1	0,67	0,83	99,99% efficacy
	Test Fabric 2	0,83		
	Test Fabric 3	1,00		

Antiviral Efficacy Value	Standard
$R < 2,0$	Inefficient
$3,0 > R \geq 2,0$	Good Effect
$R \geq 3$	Excellent Effect



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Electron  
E S D F A B R I C

Pr<sup>o</sup>ton  
FIRE RETERDANT FABRICS

Neutron  
ANTI-VIRAL TEXTILE

 Cleanroom®  
Temiz Oda ve Laboratuvar Tekstilleri

 **ebruzen**  
Textile

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## Comparison of Neutron with a normal fabric without anti-viral properties

We can successfully access the details of our test reports carried out with scientific studies, for example, with a normal 100% cotton fabric that has been washed 20 times without any damage, it has been tested with COVID-19 according to the ISO 18184 standard, without any external effects, and the viral load only occurs within the first 2 hours. It can decrease by 15%. However, 100% cotton Neutron Antiviral fabric ensures that 99.99% of the viral load disappears within the first 2 hours, although the test is disrupted after being washed 20 times. Theoretically, more than 48 hours are needed for a 15% reduction in the first 2 hours on normal fabric to reach a 99.99% reduction. This comparison alone shows the power of Neutron.

Our Anti-Viral fabrics, which emerged as a result of difficult and long R&D studies, were tested for the first time in Turkey according to the EN 18184-2019 test standard. This entire process was carried out together with the company's engineering corps and diverse esteemed scientists.