



RASCO-ENERGO
Graphene

Technical Data Sheet Graphene Type DX-G5

Type: Dinex DX-G5 graphene

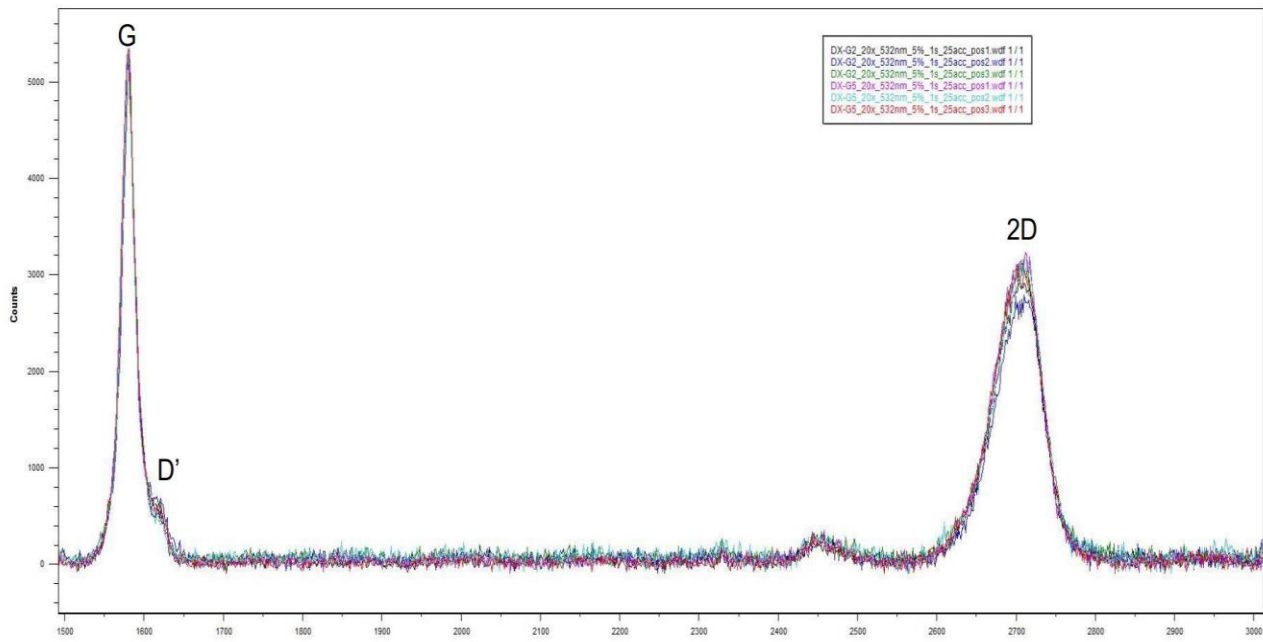
Specification: Graphene DX-G5 it is a gray-black paste-like suspension on a water basis (graphene - 50% and distilled water -50%).

Technical specifications:

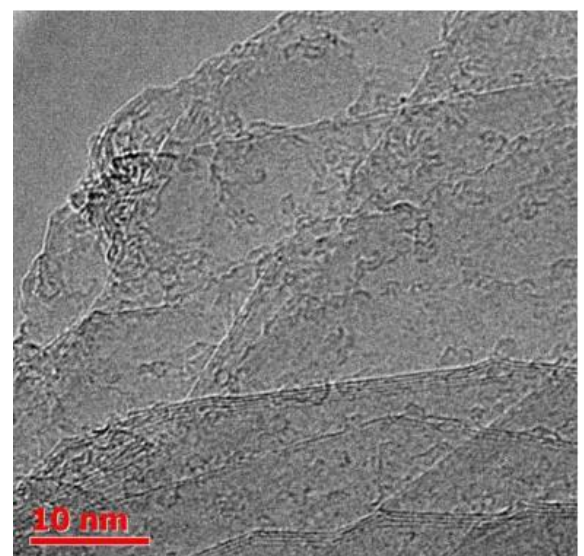
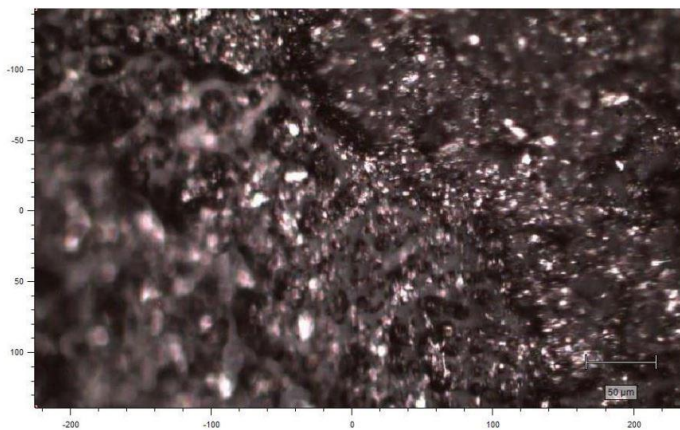
Name	Composition		
	Carbon, not less than, %	Salts (sulfates, magnates, carbonates), no more, %	Number of layers before aggregation
DX-G5 graphene	99.0	0.08	5+

The data on the analysis of the combined light scattering spectra (RAMAN) are shown in the figure:

Raman spectra



DX-G5



RECOMMENDATIONS FOR THE USE OF GRAPHENE IN VARIOUS MATERIALS

Material type	Recommended amount of graphene in the material	Recommended numbers of layers	The results of the application of graphene	Technology for adding graphene to materials
Concrete mortar	0,26 %	2-10	<ul style="list-style-type: none"> ▪ Increases bending strength by 2.7 times, for compression by 1.5 times ▪ Improves water resistance by reducing water resistance by 2.87 times. TOTAL: increasing the service life of concrete structures.	Addition during kneading (mixing) of the constituent components for concrete
Epoxy resins	0,3 %	2-10	<ul style="list-style-type: none"> ▪ Increases bending strength by 1.3 times. 	Adding before packaging
Paints	1-1.5%	2-10	<ul style="list-style-type: none"> ▪ Anti-corrosion properties are improved (corrosion effect is significantly reduced). ▪ Increased strength and elasticity of the layer. ▪ Increased heat resistance. ▪ Extended service life. 	Adding before packaging
Plastics	20-25 %	2-10	<ul style="list-style-type: none"> ▪ Increased strength. ▪ Acquire anti-static properties. ▪ Reduced weight at a fixed strength index. ▪ Thermal conductivity increases (there will be no overheating at one point). 	During production, before molding
Glue	1 %	2-10	<ul style="list-style-type: none"> ▪ Qualitative improvement of all characteristics of the glue (especially the acquisition of hydrophobicity). 	In the production process as one of the elements of the batch.
Polyethylenes	≈30 %	2-10	<ul style="list-style-type: none"> ▪ Increased strength. ▪ Reduced weight at a fixed strength index. 	During production, before molding.
Clothing fabrics	painted over fabric. In paint 1-1.5%	2-10	<ul style="list-style-type: none"> ▪ Clothes become anti-static.. ▪ Increased water resistance. ▪ Bacteria and UV protection. ▪ Thermal conductivity improves when added to the filler (heat retention will increase significantly. Also, you can add clothes to sports and a person will feel comfortable under extreme loads. 	Like paint on fabric, or inside the filler. A variant with graphene threads is also possible..
Rubber	up to 5%	2-10	<ul style="list-style-type: none"> ▪ Strength increases. ▪ Reduced weight ▪ Extended service life in 3 times 	During kneading
Metal	-	2-10	In process of research	

Material type	Recommended amount of graphene in the material	Recommended numbers of layers	The results of the application of graphene	Technology for adding graphene to materials
Kevlar fabric	-		In process of research	Painted over fabric
Glass and basalt fiber insulation	Less than 3%	2-10	<ul style="list-style-type: none"> Improves thermal conductivity properties. Requires additional research 	During production
Radio components	-	1-ply	Requires additional research	In chips and parts instead of gold, copper and silicon
Glass	-	2-10	<ul style="list-style-type: none"> Improves the hydrophobicity of the surface (wipers on cars will not be needed, water and dirt will not stick to the glass). 	Graphene film can be applied to glass
Cosmetics	Depends on the type of cosmetics	Depends on the type of cosmetics	<ul style="list-style-type: none"> Maintains color and improves anti-static properties, protects against UV (hair dye). Accelerates absorption of ingredients due to high thermal conductivity. Improves antibacterial properties 	Depends on production technology.
Lubricants	Less than 2%	2-10	<ul style="list-style-type: none"> Reduces the coefficient of friction in the nodes of mechanisms and their wear 	In the production process as one of the elements of the batch
Batteries	Depends on the type of battery	5-7	<ul style="list-style-type: none"> Significant increase in capacity. Increases the number of charge-discharge cycles 	Depends on production technology.

NOTE: data on the quantity and technology of adding graphene in certain materials are advisory in nature. A variety of materials, their properties and manufacturing technology require a separate laboratory study within the framework of existing industries.