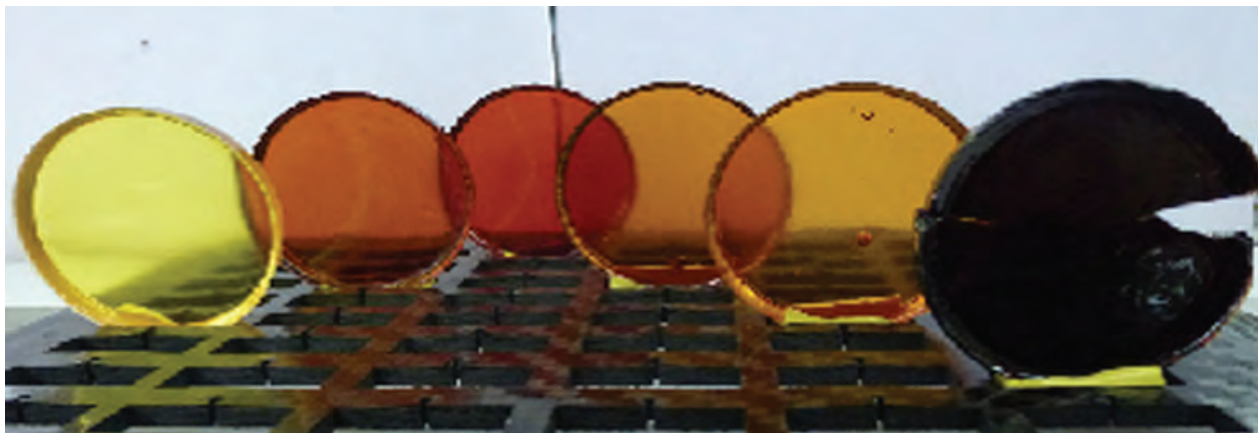


HIGH-PERFORMANCE SOLVENT-FREE BINDER FOR CARBON AND GLASS PLASTICS



Polymer matrices obtained from binders at different temperatures



Applications of new polymer matrices

Areas of Application

Aerospace industry, microelectronics, railway transport, car- and shipbuilding

Advantages

There are no analogs in Ukraine. In comparison with the binders currently used in Ukraine, the materials developed have a significantly lower dielectric loss and operability at a high temperature and humidity. These carbon plastics demonstrate physical and mechanical properties similar to those of the best counterparts from EU and USA

IPR Protection

IPR3

Specification

Binder Properties

Organic solvent content, wt. %	0
Viscosity (VZ-4) at T = 60 °C, s	20 – 50
Viability at T = 60 °C, h	>8
Glass transition temperature, °C	235
Onset temperature, °C	390
Water uptake, wt. %	1 – 2

Properties of carbon plastics

Binder content in plastics, wt. %	28 – 32
Tensile modulus, MPa	1660
Compression strength, MPa	1090
Flexural strength at T = 20 °C, MPa	1650
Flexural strength at T = 150 °C, MPa	950
Flexural strength at T = 200 °C, MPa	440
Operating temperature, °C	150 – 350
Porosity, %	0

Stage of Development. Suggestions for Commercialization

IRL3, TRL4
Seeking partners for production

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