COMPOSITUM FILAMENT SERIES™

ABS EX™
ABS ST™

ABS EX™ - ISO (ASTM) Property

Item	Measuring Method	Condition	Unit	Value
		Physical		
Specific Gravity	ISO 1183	Natural color	g/cm3	**1.040**
Melt Flow Index	ASTM D1238	200°C/5kg 220°C/10kg	g/10min	**3.8** **38.3**
		Mechanical		
Tensile Strength	ASTM D638	5mm/min	MPa	**39.23**
Flexural Strength	ASTM D790	2.8mm/min	MPa	**56.88**
Flexural Modulus	ASTM D790	2.8mm/min	MPa	**2059**
IZOD Impact Strength	ASTM D256	1/1 inch	kgfcm/cm	**22**
Rockell Hardness	ASTM D785	R Scale		**108**
		Thermal		
Heat Deflection Temperature	ASTM D648		°C	**85**
VICAT Softening Temperature	ISO R 306	5kg	°C	**98**
		Flammability		
Flammability	UL94	HB	mm	**1.0, 1.5, 3.0, 6.0**

The output parameters of the control samples:
- filling: 100%
- layer: 0.2mm
- nozzle: 0.4mm
- print temperature: 250°C
- platform temperature: 110°C
- temperature of the working chamber: 54°C

ABS ST™ - ASTM Property

Item	Measuring Method	Condition	Unit	Value
		Physical		
Specific Gravity	ASTM D791	Natural color	g/cm3	**1.038**
Melt Flow Index	ISO 1133 ASTM D1238	200°C/5kg 200°C/5kg 220°C/10kg	g/10min	**3.8** **2.6** **25.0**
		Mechanical		
Tensile Strength	ISO 527 ASTM D638	50mm/min 5mm/min	MPa	**44.7** **48**
Flexural Strength	ISO 178	2mm/min	MPa	**64**
Flexural Modulus	ISO 178	2mm/min	MPa	**1840.1**
Tensile Modulus	ISO 527		MPa	**1967,2**
Tensile Elongation at Yield	ISO 527		%	**2.1**
Tensile Elongation at Break	ISO 527		%	**18.6**
Charpy Impact Strength	ISO 179 1eA	4mm, 23°C	KJ/cm2	**20.0**
IZOD Impact Strength	ISO 180 1A	4mm, 23°C	KJ/cm2	**20.1**
Rockell Hardness	ISO 2039	R Scale		**106.2**
		Thermal		
Heat Deflection Temperature	ISO 75-2	0.45MPa	°C	**97.6**
Heat Deflection Temperature	ISO 75-2	1.8MPa	°C	**92.9**
VICAT Softening Temperature	ISO R 306	B/50	°C	**94.4**

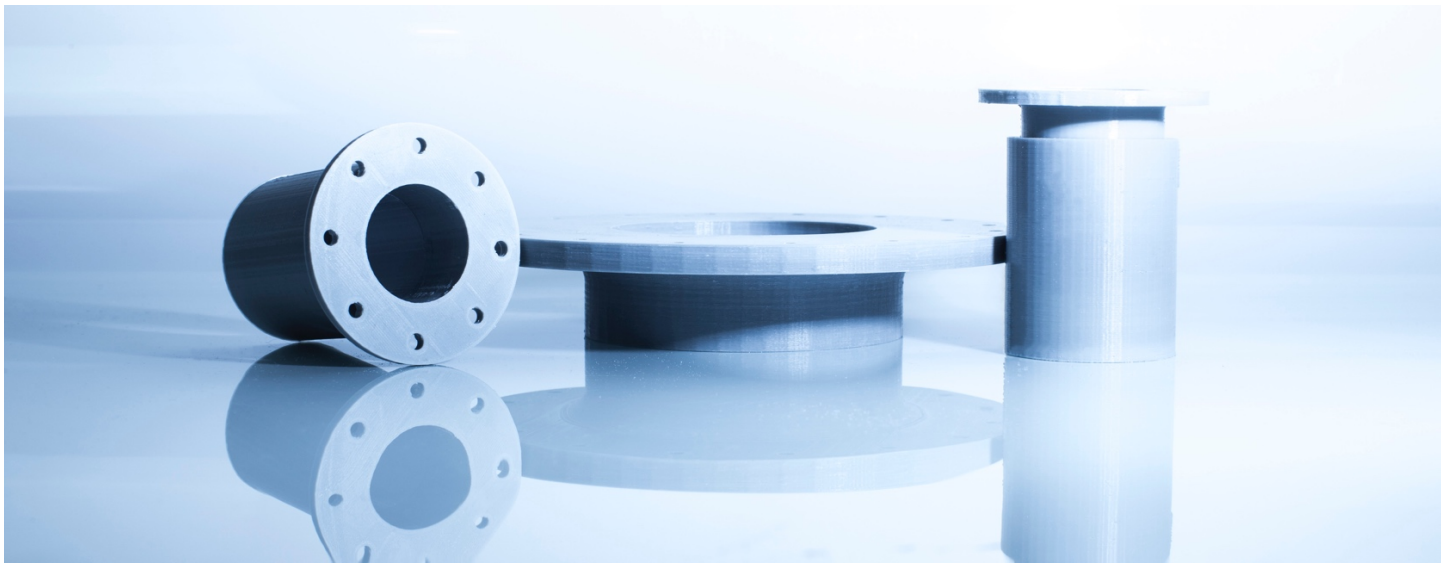
The output parameters of the control samples:
- filling: 100%
- layer: 0.2mm
- nozzle: 0.4mm
- print temperature: 240°C
- platform temperature: 100°C
- temperature of the working chamber: 54°C

Compositum Filament Series™ is line of filaments which are made from granulated substances developed especially for use in FDM spatial printing. Material changes have already been made at the monomer stage, which has resulted in materials with excellent mechanical, thermal and physical properties.

ABS EX™ and ABS ST™ filaments are marked by excellent cohesion of layers and very low linear contraction. Thanks to it the difference in mechanical properties of the printed sample compared to the model produced by the injection method is only 8%. The strength tests performed on the printed samples represent real strength values of the material, obtained by FDM spatial printing. Parameters of ABS EX™ and ABS ST™ materials are the highest possible values of currently available ABS filaments on the global market.

Practical advantages of Compositum Filament Series™ make them applicable in many areas of industry and professional activity. ABS EX™ and ABS ST™ filaments are successfully used, among others, for:

- manufacturing elements of production lines and spare parts of machines and devices,
- manufacturing untypical tools, handles and fixings in production departments,
- manufacturing bases for sand casting molds,
- manufacturing cases for electronic production,
- manufacturing parts of cassettes,
- manufacturing elements of hand prostheses,
- manufacturing adapters for feeders in plastic industry,
- manufacturing elements of mock-ups for architectural designs,
- unitary and low-mass-produced manufacturing in furniture industry,
- prototyping mechanical and electronic elements and units.



COMPOSITUM FILAMENT SERIES™

- Industrial materials
- Excellent mechanical properties
- Excellent workability
- Excellent layers coherence
- Low linear contraction
- Durability similar to injection method

COROPAD™ adhesive pad

- 10 standard sizes
- Strong adhesion
- Clean and simple work with 3D printer

C-STICK™ adhesion spray

- Exponential growth of adhesion with temperature
- One can – 150 prints
- Quick and easy application