



# Colored Carbon Fiber Compounds

Because carbon is black, when color is a key requirement for a component, carbon fiber is often excluded from being a viable option. Instead, glass fiber is used as a reinforcement, along with color pigment. Glass offers very little optical resistance to the introduction of color in a plastic and leads to generally strong, stiff heavier final parts. For decades, these basic requirements and limitations of carbon reinforced thermoplastic compounds have remained. However, today's new colored carbon fiber compounds open the color choices of materials beyond standard gray and black.



Utilizing a colored carbon fiber compound instead of a glass fiber filled compound, affords a mechanical designer the potential to match or improve the strength and stiffness of a part while reducing the part's weight. The designer has the potential to increase the strength and stiffness of a part without increasing the part's weight. This ability can become a game changer in applications where colored components are at their maximum limits with glass fiber filled compounds.

LEHVOSS North America now offers several color carbon filled compounds in a range of colors and in a variety of engineering resins that have improved lightweight structural performance over colored glass filled compounds.

## LEHVOSS Colored Carbon Fiber Compounds

Compound	Color	Base Resin	Specific Gravity	Tensile Str.	Elongation	Tensile Mod.	Flexural Str.	Flexural Mod.
			ISO 1183	ISO 527 (MPa, %, GPa)			ISO 178 (MPa, GPa)	
LUVOCOM 1-8068/YL	Curry	PA66	1.24	130	2.0	8	190	7
LUVOCOM 1-8068/RD	Brown-Red	PA66	1.24	130	2.0	8	190	7
LUVOCOM 1-8068/GY-1	Silver	PA66	1.31	140	2.1	9	205	8
LUVOCOM 1-8068/GY VP	Grey	PA66	1.34	180	2.1	11	180	11
LUVOCOM 1-8068/GN	Green	PA66	1.24	135	2.0	8	195	7
LUVOCOM 1-8068/BL	Blue	PA66	1.24	135	2.2	8	195	7
LUVOCOM 1-8934/BL/L	Blue	PA66	1.61	135	2.9	10	208	9
LUVOCOM 1-9065/BL/L	Blue	PA66	1.63	125	2.3	8.5	180	7
LUVOCOM 1-8818/RD/L	Red	PA66	1.30	177	1.8	13	257	11
LUVOCOM 1-9365/RD	Red	PA66	1.30	185	2.5	13	275	11

## Colored Carbon Fiber Compounds vs a Colored Glass Fiber Compound

Blue Compound			LUVOCOM 1-8068/BL	LUVOCOM 1-9065/BL/L	% diff.	LUVOCOM 1-8934/BL/L	% diff.
			Carbon fiber	Glass fiber		Glass fiber	
Specific Gravity	ISO 1183	-	1.24	1.63	-31%	1.61	-30%
Tensile Strength	ISO 527	MPa	135	125	7%	135	0%
Elongation	ISO 527	%	2.2	2.3	-5%	2.9	-32%
Tensile Modulus	ISO 527	GPa	8	8.5	-6%	10.1	-26%
<b>Specific Strength</b>	-	<b>MPa/SG</b>	<b>109</b>	<b>77</b>	<b>30%</b>	<b>84</b>	<b>23%</b>
<b>Specific Modulus</b>	-	<b>GPa/SG</b>	<b>6.5</b>	<b>5.2</b>	<b>19%</b>	<b>6.3</b>	<b>3%</b>

**Conclusion: Colored carbon fiber is 20-30% stronger and 3-20% stiffer than the glass filled compound per pound.**

**For a quote or more information:**

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