LUVOCOM® High-performance compounds for the aviation market

- **Weight saving**
- **High strength and stiffness**
- **High impact resistance**
- **Inherently flame retardent**
- **Made-to-measure properties**
- **Cost saving**

High-strength structural part made of LUVOCOM 1301-0824 for luggage compartments in aircraft

Innovative and state of the art compounds

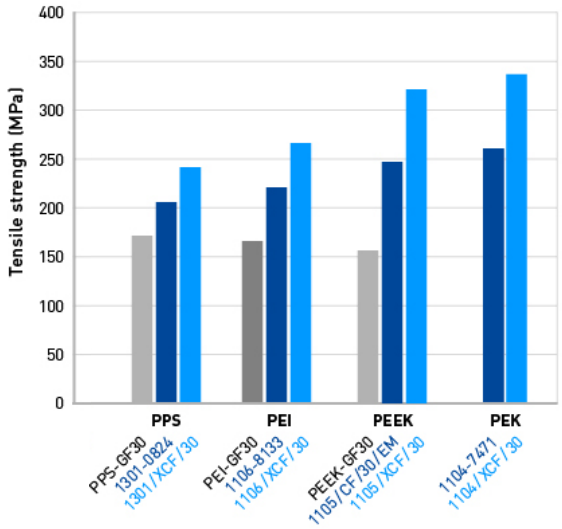
Aviation demands extremely strong yet lightweight materials. The megatrend towards lightweight construction with composites and carbon-fibre reinforced plastics allows tremendous savings to be made in weight and hence in fuel consumption. With our carbon-fiber reinforced thermoplastic compounds – especially extra strong LUVOCOM XCF and LUVOCOM LF – we supply a broad product range for extreme fields of application. Those compounds are based on high-temperature-resistant polymers like PEEK, PEK, PEI, PSU and PPS. Outstanding feature here is the halogen-free flame resistance without the addition of flame retardants and a low smoke density. Modifications with glass fibers and lubricants are used in less demanding structural parts – like cable fasteners – or functional parts like gear wheels for fuel pumps.

Our experts will advise you on the optimum material for your application at any time, even during the development phase. We develop individual compounds for many of our clients with a large range of available reinforcements according to specifications jointly defined in advance. LUVOCOM-high-performance compounds have been specified by major OEM and system suppliers.

Structural part made of LUVOCOM 1106/XCF/30 for aircraft seats

Fastener made of LUVOCOM 1105/CF/30/EM for overhead panels

LUVOCOM®
High-performance compounds

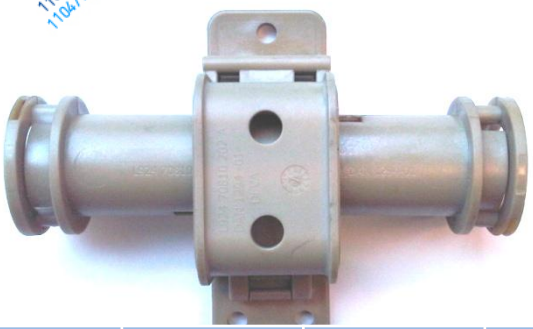


Tensile strength comparison of various compounds reinforced with glass fibers and carbon fibers LUVOCOM XCF exhibits significant improvements

1 Gear wheel for fuel pumps: LUVOCOM 1105-8127
2 Cable fastener: LUVOCOM 1105/GF/20/EM
3 Connectors: LUVOCOM 1105-7107

1

2



3

Material selection

LUVOCOM	Polymer	Fiber type and percentage (%)	Tensile strength ISO 527 (MPa)	E-Modulus ISO 527 (GPa)	Charpy ISO 179 1eU (kJ/m^2)	Specific Density ISO 1183 (g/cm^3)
1105/GF/20/EM	PEEK	Glass fiber 20	150	8	55	1,44
1105/GF/30/NAT	PEEK	Glass fiber 30	175	11	60	1,49
1105/CF/30/EM	PEEK	Carbon fiber 30	245	27	25	1,42
1105/XCF/30	PEEK	X-Carbon fiber 30	320	32	65	1,41
1301-0824	PPS	Carbon fiber 30	205	27	28	1,44
1301/XCF/30	PPS	X-Carbon fiber 30	255	33	44	1,45
1106/XCF/30	PEI	X-Carbon fiber 30	265	29	45	1,40

LUVOCOM ensures reliable performance under even the most severe conditions. The materials are based on practically every available thermoplastic resin. Over the past 30+ years we have developed most of them tailor-made to customers' specific requirements. The products can be broadly divided into 8 groups as follows:

- High-temperature resistant
- Thermally conductive
- Carbon-fibre reinforced
- Lubricant modified
- Long-fibre reinforced
- Detectable
- Electrically conductive
- Functional powders

www.luvocom.com

Europe & Head Office
Lehmann & Voss & Co. KG
Alsterufer 19
20354 Hamburg
Germany
Tel +49 40 44 197 250
Fax +49 40 44 198 250
Email: luvocom@lehvoss.de

North America
LEHVOSS North America, LLC
185 South Broad Street
Pawcatuck, CT 06379
USA
Tel +1 855 681 3226
Fax +1 860 495 2047
Email info@lehvossllc.com

Asia
LEHVOSS (Shanghai) Chemical Trading Co. Ltd
Unit 1590, 15 f L'Avenue, No 99
Xianxia Road, Changning District,
Shanghai 200051
China
Tel +86 21 6057 7298
Email info@lehvoss.cn

5/2015