

Safe protection for the next generation of motors with new igus material

Optimised insulation of chainflex VFD motor and servo cables for energy chain use, thanks to new high-performance polymer

The trend for variable frequency drives (VFDs) is moving towards more compact drives with the same or higher power and extremely high switching accuracies of the frequency converters. As a result, when selecting the cable the user not only has to pay attention to the right combination of number of cores and cross-sections, but also to the electrical specifications of the cable. That is why igus has now developed a material that meets the new challenges for its latest generation of motor and servo cables. In the test, it was able to withstand a bend radius of $7.2 \times d$ over 45 million strokes.

From small to large: the trend in motor technology is towards ever more compact VFD motors with the same or a higher performance level than their predecessors. Smaller, plastic-insulated round power connectors such as the M16 or M18 are being used more and more for the new motor designs to be able to exploit their full advantages. The more compact design of the motors, can result in higher temperatures within the system, compared to larger ranges of the same motors. The result is that the cable heats up via the connector contacts. Although there are no consequences for the motor and the connected components in the short term, serious problems might occur in the long term. If the insulation material of the cable does not withstand the elevated temperatures in the long term, short circuits can occur inside the cable and in the vicinity of the connectors, which in the worst case can lead to fires. Therefore, the insulation material plays a new central role in the selection of the correct servo and motor cables.

Tested igus insulation material for the latest servo motors

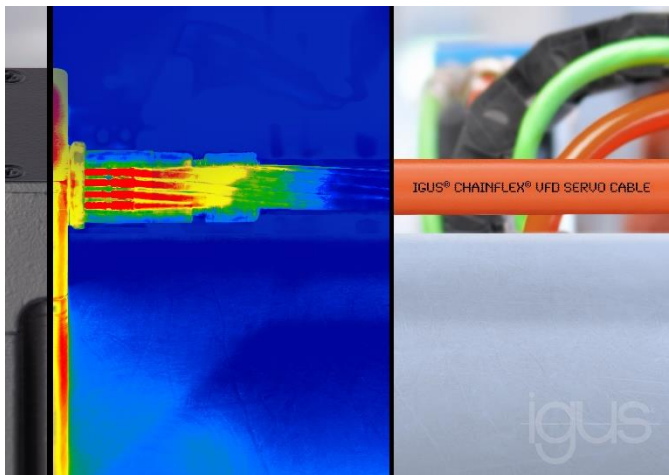
After a five-year development and testing period, igus now offers a solution to prevent insulation and consequential damage to the compact motors, in the form of a new insulation material for its chainflex VFD motor and servo cables. Due to the expertise in the area of new high-performance polymers, the motion

plastics specialist has been able to develop a new material that successfully passed the comprehensive laboratory and practical tests. For example, in test 5034, the CF29 servo cable with a bend radius of $7.2 \times d$ withstood over 45 million strokes. The new material - in contrast to other common materials - meets the increased thermal requirements of the latest motor generations. This makes igus the only supplier in the global market to offer long-term tested ranges of VFD motor and servo cables for continuous use in energy chains, which meet the specific thermal and electrical requirements of the latest converter generations.

Largest variety of cables tested and guaranteed

The igus range of cables undergoes extensive tests under real conditions in the company's own 2,750 square-metre test laboratory. The data generated allowed igus to become the only manufacturer in the market to offer a 36-month guarantee on its entire cable range.

Caption:



Picture PM0219-1

The new insulation material from igus for chainflex servo and motor cables, can withstand the special thermal and electrical requirements of the latest motor generations. (Source: igus GmbH)

PRESS CONTACT:

Ravikumar Alloli
Product Manager
chainflex®

igus (India) Private Limited
36/1, Sy. No. 17/3
Euro School Road,
Dodda Nekkundi Industrial Area - 2nd
Stage
Mahadevapura Post
Bangalore - 560048
Phone : +91-80-45127852
Cell : +91-9342828642
ravikumar@igus.in
Visit us on www.igus.in

ABOUT IGUS:

igus GmbH is a globally leading manufacturer of energy chain systems and polymer plain bearings. The Cologne-based family business has offices in 35 countries and employs around 4,150 people around the world. In 2018, igus generated a turnover of 748 million euros with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

The terms "igus", "Apiro", "chainflex", "CFRIP", "conprotect", "CTD", "drylin", "dry-tech", "dryspin", "easy chain", "e-chain", "e-chain-systems", "e-ketten", "e-kettensysteme", "e-skin", "flizz", "igear", "iglidur", "igubal", "kineKIT", "manus", "motion plastics", "pikchain", "plastics for longer life", "readychain", "readycable", "ReBeL", "speedigus", "triflex", "robolink", and "xiros" are protected by trademark laws in the Federal Republic of Germany and internationally, where applicable.