

## ATEX: ESD Energy Chains for planning liberties

Until the end of 1975 only national guidelines for explosion proofness existed in the individual nations. Until 1990 these standards had to be adjusted time and again. Already in 1992 the igus® GmbH from Cologne had in co-operation with the PTP (Physikalisch Technische Bundesanstalt = Federal Office for technique and physics) successfully carried out measurement of the electrical surface-derivative-resistance for igus energy chains with the special material igumid GC for the ex-areas of protection 0,1 and 2. In 1998 and 1999 other certifications according to DIN 53482 and ZH1/200 regulations for static electricity of the general association of the professional trade-associations followed by the PTB.

The igus® research began in the year 2000 in Cologne with the development of a new material according to ESD (electronic-static-discharge). After many tests in the igus laboratory this new material igumid ESD had been released in May 2002 by the PBT. After the European Union had passed the general framework ATEX 94/4/EG of the European Parliament with the purpose to adjust the laws of the member nations for devices in potentially explosive fields and after the revised version of the framework had called into being ATEX, igus® began further development of its new materials to meet this challenge.

### Nothing sprayed – but permanently conductible

In June 2002 the manufacturer from Cologne has started with the work to implement the general framework for 94/9/EG, supported by prestigious institutes. The igumid ESD material with special additives even goes beyond the standard material in mechanical applications and has been tested with more than 100 million cycles. Unlike temporarily effective applied conductive layers or volatile incorporated antistatics – the used admixtures provide a permanent and maintenance-free conducting capacity. An advantage is the resistance against aggressive chemicals, temperatures etc. as well as the slightly higher stiffness and the approximately 15 % lower density (= own weight of the energy chain).

Depending to the application larger cantilevered lengths can be realised. Due to the used material once more the ESD energy chain has an increased lifetime.

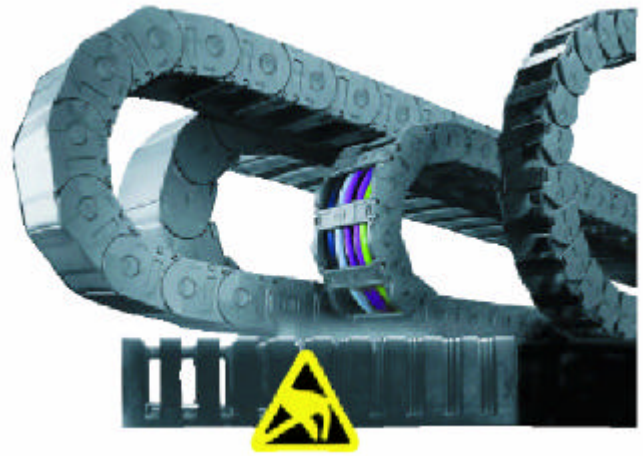


Bild 128: igus® GmbH Köln

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To avoid mix-up when applied and to differ optically from the standard material, ESD Energy Chains are painted with a colour equivalent to RAL 7015 (slate-grey) – for almost 2 years now.

All in all the ESD energy chain offers designers any kind of freedom to plan. In any way and design it guarantees an optimal protection against electrostatic loads. This is very important for applications such as automatic placement machines, clean rooms, storage and retrieval units for high-bay warehouses and for poison storerooms, sewage plants and in enamelling lines of the motorcar industry.

If desired an “ATEX-certification” can be requested from igus®.

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