

PROBLEM-SOLVING AND DEVELOPMENT EXPERTISE



Technische Abisolierlänge /
Recommended Cable Preparation

Daten / Technical Data

Umfeldzustand: IP 68
mated

Bei allen hier dargestellten Steckverbindern
handelt es sich nach DIN EN 61984:2009
um Steckverbinder ohne Schaltleistung (COC)!

All shown connectors are according
to DIN EN 61984:2009
connectors without breaking capacity (COC)!

Allgemeine Zustände nach RTR 130 2763-01 Zustände nach DIN 193 9012		Sonderfall hierzu Stückliste	
Tag	Name	Benennung	
26.01	D. Scholz	Steck	
Gepr.		Zeichnungs-Nr.:	
Norm		S21K	
Ersatz für: S21KOC-			



Thanks to its decades of developmental expertise and experience, flexible yet efficient production structures and processes, ODU is the right partner, both for customized special solutions and catalog products for serial production. Today and tomorrow.

01 WHEN EXPERTISE MEETS CHALLENGE

ODU stands for electrical connector technology of the highest standard. Our connectors and systems set the standards for mating cycles, contact density and reliability. Custom products we develop for specific customers and applications are used the world over. Our decades of experience, combined with modern simulation tools and testing and production processes, enable the shortest of development lead times for customer-specific product solutions.

ODU currently operates three development and production sites in Europe, the US and China. Together with our regional application centers, we achieve the necessary proximity to our customers so we can offer our expertise locally, tackling the respective challenges and requirements of that area.

What's needed today and tomorrow are specifically laid-out contacts, connectors and transmission systems offering more power density in an ever smaller installation space with the highest number of mating cycles and transmission rates. At the same time, these contacts need to be lighter, more rugged, and user-friendly and of course reliable for the long term.

SKILLFUL AND CREATIVE

Our implementation skills are based on the combined expertise of a close ongoing collaboration among sales application engineers, development engineers, product designers and production experts throughout the complete product engineering process.

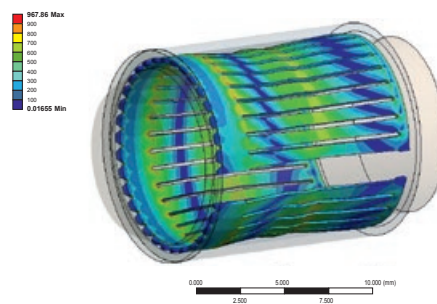
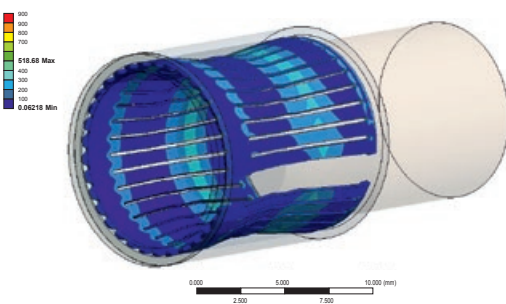
The very first step is to fully understand the customer's application and derive the necessary technical and economic requirements and framework conditions from this understanding. The resulting specifications are arrived at in close coordination with the customer. Making use of pre-existing knowledge and a great deal of creativity, the product designer gets to work on the product. Together with Development and Production, the technical feasibility is tested. FEM simulations*, rapid prototyping and sophisticated measuring and testing procedures are put to use in a careful interplay. The ODU Technology Test Center (T°C) plays an important role in this. Thanks to measurements and simulations carried out early on and throughout the process, ODU achieves very short development lead-times for new products. The latter has positive effects on the cost and efficiency of such new developments.

In this whole process, nothing can replace experience. This is true for the product designer as much as for the development engineer and test engineer. Experience can always be complemented with new

insights we continuously acquire through fundamental work in product development. This combination of profound experience and application-oriented research is the basis for producing contacts with over 100,000 mating cycles with no loss of reliability or transmission features. Our knowhow in contact physics and expertise in surface finishing enable us to develop connectors that fulfill their specifications with stability and reliability for the long term – even in extreme framework conditions.

It's not enough to simply study the spec sheet of a certain type of plastic as an insulation material or a metal alloy for housings. When it comes to producing high-vacuum 50 kV high-voltage connectors or salt-water resistant connectors that are pressure tight for up to 500 bar, it takes more. Such applications require the constant exchange of experience and fundamental research results, which we carry out and promote at ODU on a daily basis.

We test the limits of the technically viable and economically sensible in order to deliver perfect connectors to our customers. We consider it our mission.



FEM simulation

The mechanical contact features of the mating process form the essential basis for wear-resistant electrical connections that remain stable for the long term.

* FEM = finite element method



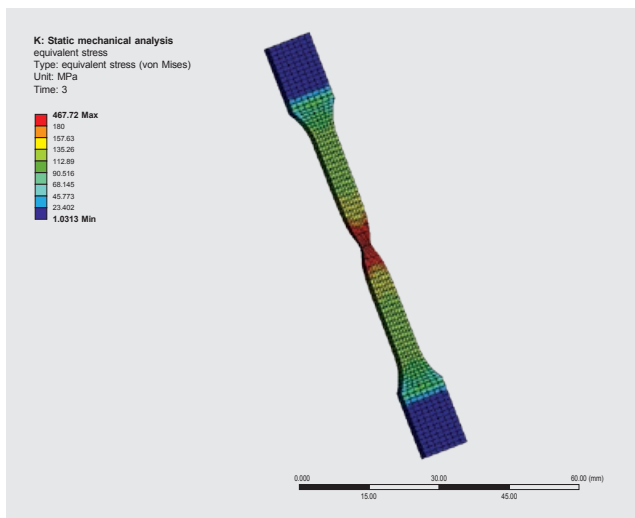
Cold



Heat

Standardized tensile tests under extreme climatic conditions

In order to optimally tailor high-performance materials to customer requirements, the tensile tests are carried out in a climate chamber. This process provides decisive information on the material's behavior for the later, actual use.



Prototypes made from production materials

By means of injection molding, for example, a cable can be surrounded with a grommet via injection in 3D-printed tooling inserts. This enables prototypes made of production-quality plastics to be provided and tested within a very short period of time.

Correct material parameters

In the case of FEM simulations, precise input parameters are of primary importance. The true strain, which can appear much higher locally, is rarely found in a manufacturer's spec sheet. Yet it is of exceptional importance when it involves tensile strength, forming and fracture mechanics.

