

# POWER TOOLS

SWISS ENGINEERING FOR ONE  
AND MULTI MATERIAL SEALINGS



## LEADING SUPPLIER FOR THE INDUSTRY

Datwyler focuses on high-quality, system-critical polymer components and has leading positions in attractive global markets such as mobility, connectivity, health-care, oil & gas, food & beverage and general industry.



over **1,000**  
customers and  
innovation leaders



over **25**  
sites worldwide



over **8,000**  
associates  
worldwide



over **100** million  
components  
manufactured  
every day



over **1,000** million  
CHF in annual  
revenues

Thanks to its core competencies solution design, material expertise, and operational excellence, Datwyler supports and assists its globally active customers at every stage of the process – from early development to serial production of molded parts, components molded onto metal or plastic, and O-rings with specific requirements.



*Datwyler's Core Competencies*

**Datwyler supports its partners to promote a world that is safer, smarter and more sustainable.**

## SUSTAINABLE INNOVATIVE SEALING

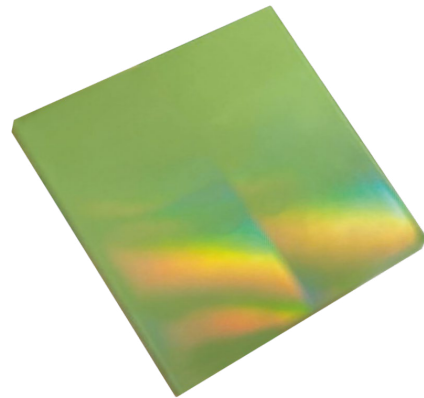
We all enjoy the smell of fresh cut wood or grass. No matter if we are in the woods or at home on the private lawn, we do not want to get stuck by a machine on strike. Therefore, we count on reliable machines to do the work. Datwyler innovative sealing products make sure, that the machines work even under severe conditions.



We test the materials thoroughly on our test benches and in the application. For fuel driven devices, a wide range of FKM compounds is available and even customer specific compound developments are possible.

For electric machines we recommend EPDM, Butyl and Silicone/LSR (liquid silicone rubber) compounds which do withstand long UV and weathering exposures. Hardnesses from 20 to 90 shore are possible, giving the possibility to handle very low to high pressures.

When it is good, we still strive to make it better. This is why we technically and commercially evaluate whether a 2k-part could be a better solution. Datwyler has the strength to produce parts made of EPDM/PA, FKM/PA and LSR/plastic. LSR has excellent weathering, UV and ageing resistances, is chemical inert and hydrophobic. It can furthermore be delivered in almost every color so that we can adapt the seal to your company color.



Talking about the look, microstructures can be applied on surfaces of LSR, elastomers and plastics. This hologram type appearance can not only be used for decoration but also to prove the origin. This is especially helpful when you want to make sure that only original spare parts are used which guarantee the full performance of the power tool.

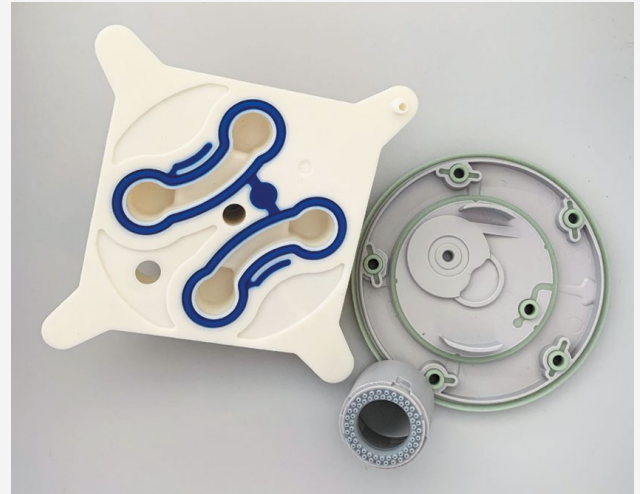
**Datwyler low compression set compounds, the possibility to realize smart 2k-parts and customized part appearances are your friends when you strive for high performance tool design.**



## HIGH PERFORMANCE 2K-PARTS

The integration of 2 functions in 1 part is key for a better performance and lower costs. Examples are combinations of PA, PMMA, PBT with liquid silicones (LSR) and rubbers such as EPDM. LSR has excellent properties and is available in almost every color.

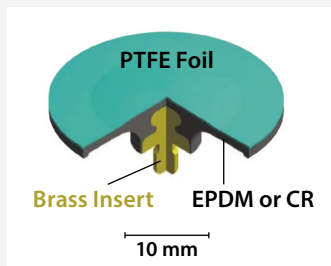
- Low compression set
- Temp range from  $-50^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$
- Drinking water homologations
- FDA, BfR, USP Class VI certified
- Excellent weathering behavior



## MEMBRANES AND COMPLEX PARTS OUT OF RUBBER OR MULTI-MATERIALS

Many compounds such as EPDM can be directly bonded to PA substrates. This reduces costs and makes e.g. reliable membranes. Furthermore, metal inserts and even sensors and chips can be integrated.

The design and production of our own molds, makes Datwyler very flexible and fast in terms of design and time-to-market.



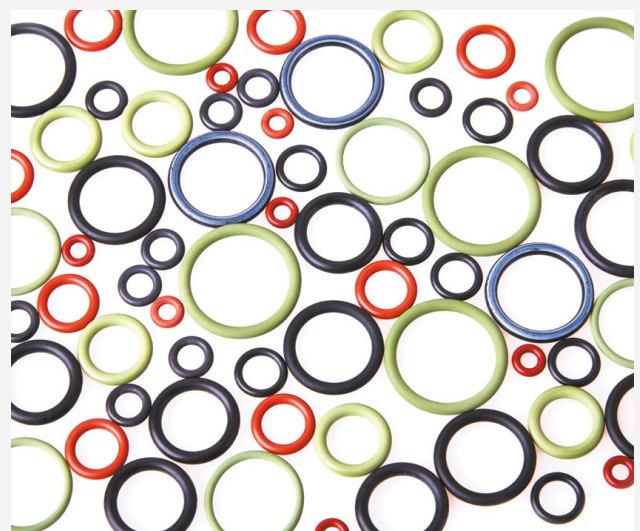
## O-RINGS AND STATIC SEALS

When considering a sealing solution, you must consider:

- Chemical resistance
- Mechanical and temperature requirements
- Type of homologation needed

Our low compression set compounds meet those requirements from NBR to FKM.

Our compounds have already some OEM homologations and in addition we can test our materials according to your specifications, which gives you long term sealing performances.





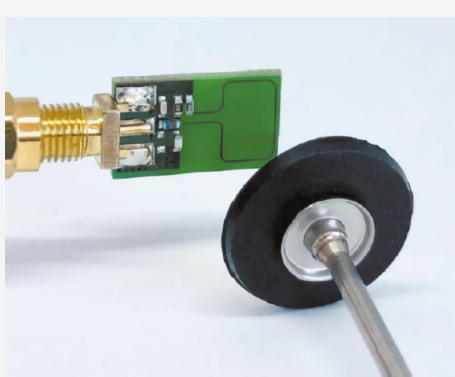
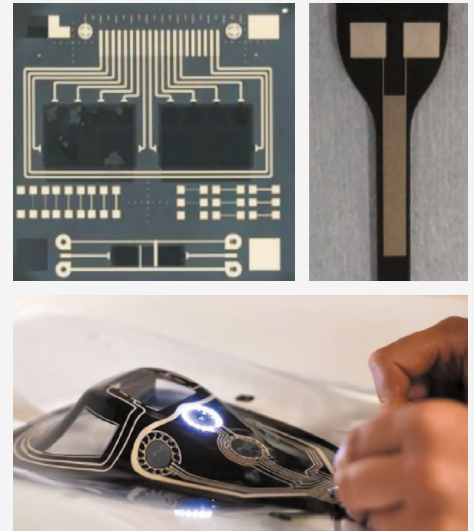
## ADVANCED MATERIALS

Making rubber “smart” is no longer a dream. Datwyler has multiple projects to make this dream come true. For instance, the integration of sensors, the usage of conductive materials and EAP (electro active polymer) stacks open the door to fully new ways of designs and products.

### PRINTED ELECTRONICS

Integrating sensors in a rubber product and connecting them via printed conductor paths are now possible. Measuring and transferring data while doing the sealing job makes our seals to be cutting edge, giving you benefits in many ways.

The printed circuit itself can be used in order to measure deformation of the product, giving you real time information about the current status and estimated remaining lifetime. This is especially helpful whenever gas or other hazardous material flows inside. One application might be a leakage detector. We assume your engineers will have even more ideas.



The integration of chips in your products guarantees full traceability throughout the whole supply chain.

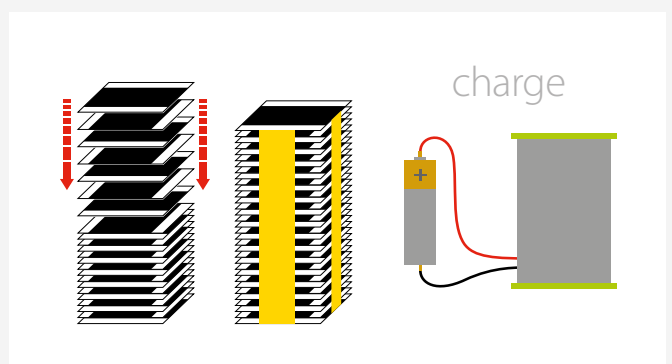
When it comes to critical devices you want to be sure that no 3<sup>rd</sup> party products are used in case of repairs.

Our integration may be one component in your quality assurance system.

### ELECTROACTIVE POLYMER STACKED EAP ACTUATOR

Electrical power converts mechanical motion into elastic deformation. These EAP stacks can for example be used as sensors, dosing systems and intelligent switches with haptic feedback.

EAP offer you the possibility to completely think out of the box.



## COATINGS

While the compound itself meets chemical and mechanical requirements and stands for the very long product life, coating in addition improves the handling of the seals. Especially in case of O-rings, coatings are often used in order to reduce the mounting forces and hence prevent the ring from being damaged during installation.

Besides these one-time uses, specific coatings can be applied to increase functionality and in case of dynamic applications.

For the use in drinking water applications, specific coating, complying with UBA-Beschichtungsleitlinie and WRAS, are available.

Most common coatings are:

- Plasma treatment
- PTFE based film coatings
- PTFE based spray coatings
- Fluorination and Chlorination of the surface
- Siliconization

The use of self-lubricating compounds are often very advantageous. While the performance of an applied coating might reduce over time, the one of self-lubricating material stays constant. The lubricant is inhibited in the compound. During a test in a gas installation, it was proved that the torque required for twisting a knob stayed constant over 10,000 cycles.

**You know best, where a self-lubricating compound may improve your product quality – challenge us.**



## ABOUT DATWYLER

Datwyler is a worldwide leading, Swiss industrial supplier and a key player in the global industrial industry. Datwyler has a strong sense of future trends and converting these into new solutions. With more than 100 years experiences, we offer state-of-the-art, system-critical sealing solutions in rubber, silicone, plastics and combinations of all.

Partnering with the world's top industrial companies, Datwyler stands by its mission to improve the quality of your products by constantly striving for zero defects from base material to delivery of the product.

The company's state of the art cleanroom manufacturing technologies helps you to comply with highest standards in your industry.

Datwyler has a clear social and environmental responsibility. We constantly challenge us. Already a high percentage of Datwyler total energy consumption comes from renewables with a public target of climate neutrality for all our own activities worldwide by 2030. We're also engaged in many social projects to improve the living conditions. Please have a look at our sustainability report on [www.datwyler.com/sustainability-report](http://www.datwyler.com/sustainability-report).

Datwyler is among the TOP 5 employers in Switzerland.



**Specific ISO certifications  
14001, 50001, OHSAS 18001**



**With the silver rating, Datwyler is in the top 15% of the more than 85,000 companies assessed worldwide by EcoVadis**

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