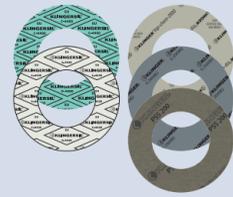


POWER-TO-X PROCESSES

Fields of application and suitable KLINGER products

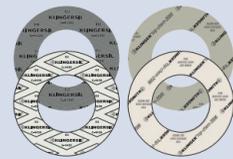
Electricity generation through renewable energy
Gaskets for steam and water turbines with supply and discharge lines and as corrosion protection between tower segments of wind turbines.

Gaskets
KLINGERSIL® C-4400
KLINGERSIL® C-4430
KLINGER® top-chem 2000
KLINGER® graphit
KLINGER® milam



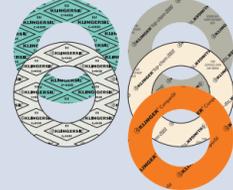
Hydrogen production through electrolysis
Standard gaskets and housing gaskets in electrolysis systems for alkaline and acidic electrolysis processes as well as in PEM-electrolysers.

Gaskets
KLINGERSIL® C-4500
KLINGER® top-chem 2000
KLINGER® top-chem 2006
KLINGERSIL® C-4430



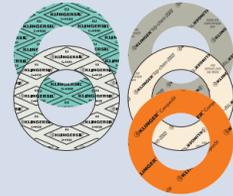
Distribution and storage
Gaskets for tanks, pipeline networks and systems for gas storage in caverns. TA-Luft compliant. Gaseous and liquid physical state of the media.

Gaskets
KLINGERSIL® C-4400
KLINGERSIL® C-4430
KLINGER® top-chem 2000
KLINGER® top-chem 2003
KLINGER® Compensil



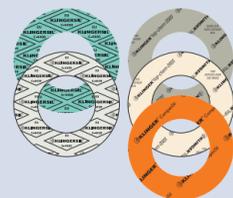
Generation of methane
Generation of methane and longer hydrocarbon chains from hydrogen and landfill and biogas. Here, processes supported by catalysis are used for chemical conversion in reactors, but also gas cleaning processes. Gaskets adapted to process and temperature.

Gaskets
KLINGERSIL® C-4400
KLINGERSIL® C-4430
KLINGER® top-chem 2000
KLINGER® top-chem 2003
KLINGER® Compensil
KLINGER® milam



Manufacture of e-fuels
There are various processes for producing e-fuels (Fischer-Tropsch, Amonia-Synthesis, SNG-Synthesis, Sasol etc.) that support catalysis and are operated in the medium to high temperature range. Therefore, different types of gaskets can also be used here.

Gaskets
KLINGERSIL® C-4400
KLINGERSIL® C-4430
KLINGER® top-chem 2000
KLINGER® top-chem 2003
KLINGER® Compensil
KLINGER® graphit
KLINGER® milam



All information is based on years of experience in production and operation of sealing elements. However, in view of the wide variety of possible installation and operating conditions one cannot draw final conclusions in all application cases regarding the behaviour in gasket joint. The data may not, therefore, be used to support any warranty claims. This edition cancels all previous issues. Subject to change without notice.



Certified acc. to DIN EN ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018. Subject to technical alterations. Status: August 2023
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POWER-TO-X

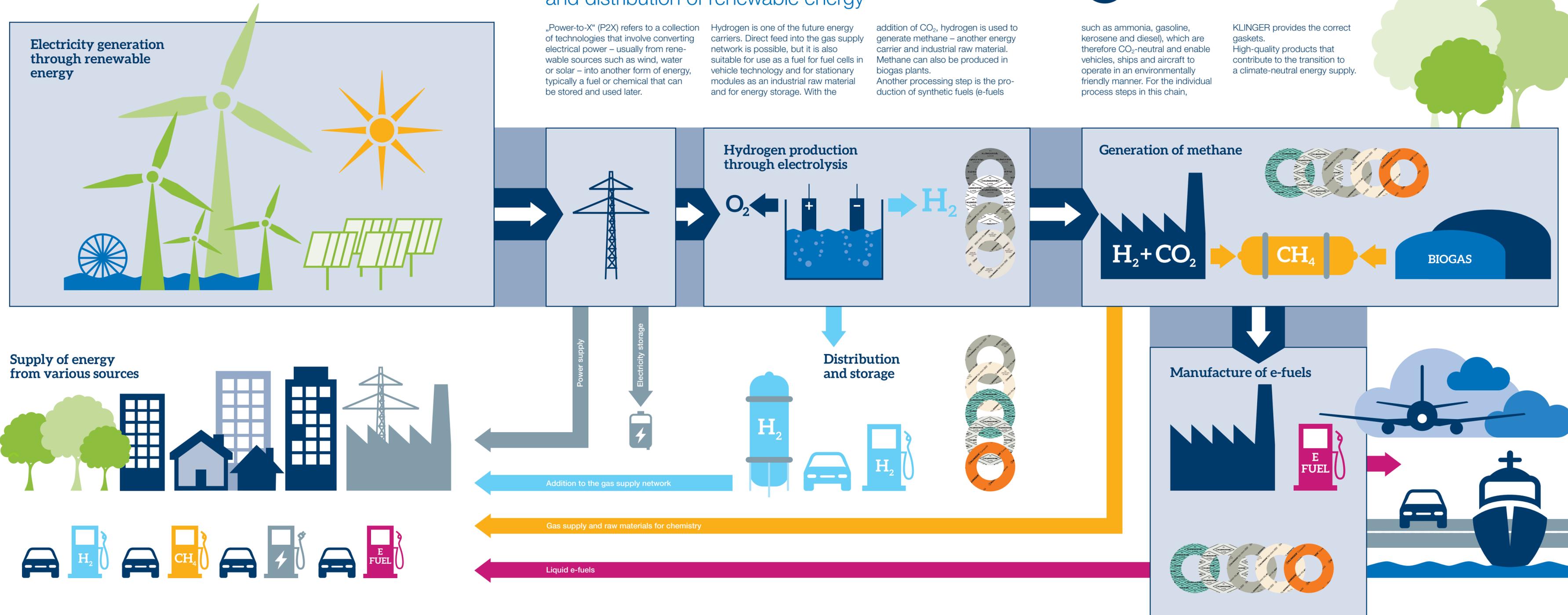
Sealing materials
for all process stages



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PROCESS STEPS POWER-TO-X

KLINGER – the best gasket for every step



KLINGER accompanies you in the production and distribution of renewable energy

„Power-to-X“ (P2X) refers to a collection of technologies that involve converting electrical power – usually from renewable sources such as wind, water or solar – into another form of energy, typically a fuel or chemical that can be stored and used later.

Hydrogen is one of the future energy carriers. Direct feed into the gas supply network is possible, but it is also suitable for use as a fuel for fuel cells in vehicle technology and for stationary modules as an industrial raw material and for energy storage. With the

addition of CO_2 , hydrogen is used to generate methane – another energy carrier and industrial raw material. Methane can also be produced in biogas plants. Another processing step is the production of synthetic fuels (e-fuels

such as ammonia, gasoline, kerosene and diesel), which are therefore CO_2 -neutral and enable vehicles, ships and aircraft to operate in an environmentally friendly manner. For the individual process steps in this chain,

KLINGER provides the correct gaskets. High-quality products that contribute to the transition to a climate-neutral energy supply.

