With its international branches SKZ is a very experienced and practice-oriented partner for the plastics industry, making a significant contribution to the success of plastic products by providing expert knowledge, competence and reliability.

Various divisions under one roof pool a high level of system expertise. This way we can solve a variety of challenges in a highly focused and timely manner. Our Testing division supports your product policy and supplies you with valuable arguments for your key markets either by means of product testing with quality certificate, or analyses and expert reports after damage cases.

Our conferences and seminars with industry experts and top-level specialists offer you the opportunity to benefit from the recipes for success of strong companies by implementing these strategies effectively in the everyday life at your company.

We are Germany's leading provider of master craftsman training courses and offer you a wide range of practice-oriented courses for the handling of plastic processing machines as well as the professional manual processing of plastics, thus helping you to improve the processes in your company at all levels.

Our research and development takes hurdles: in projects with immediate practical relevance we focus forward from material via production processes and component properties up to the assessment of procedures and products in the light of economical and ecological aspects. Our research results meet operating requirements, benefiting quality and efficiency.

Just becoming aware of the own corporate processes thanks to activities within the scope of the certification helps to identify continually potential for improvement – a tailwind no company should do without today.

Our Industrial Consulting division, which pools our consulting services, offers you advice in all questions concerning the services provided by the SKZ group.

The FSKZ e.V., the association for the promotion of the Kunststoff-Zentrum SKZ, is responsible for us. Among our more than 390 members are successful companies of the plastics and related industries.

With this omnidirectional package from a single source we help you to be one step ahead at all times.
Material Testing and Analytics

SKZ is one of the largest accredited testing laboratories in Europe. In 1993 our testing laboratory was accredited according to DIN EN ISO/IEC 17025. In the meantime our accreditation scope comprises approx. 1,000 standards and guidelines.

We focus on mechanical-technological, chemical-analytical, electrical, optical, thermal and climatic tests as well as flammability tests and creep tests of plastics and plastic products.

Many tests are conducted to ensure the service life of various products. Within the framework of hydrostatic internal pressure tests, pipes and fittings are tested on the basis of a 50-year service life. The systems are tested in state-of-the-art facilities with constant control of pressure and temperature. We can also analyse the resistance of disinfectants to active chlorine. Also tests to determine the resistance of components to UV radiation play a major role. For the artificial weathering tests our testing laboratory is equipped with different Xenon and QUV weatherometers as well as suntest equipment.

Non-destructive testing is another task of our testing laboratory. For this purpose SKZ has computer tomography scanners, thermographic devices and an ultrasonic testing apparatus at its disposal.

In addition to test reports we also prepare expert reports, e.g. for courts, and perform failure analyses on plastic parts for various applications in technology, the building sector or everyday life.

For the failure analysis we are equipped with several stereomicroscopes as well as optical and digital microscopes with an up to 1000-fold magnification. Scanning electron microscopes are used to analyse fracture photomicrographs and very small structures. With the help of an EDX unit the elemental composition on surfaces can be determined.

By means of differential thermoanalysis, thermogravimetric analysis, thermomechanical analysis and dynamic-mechanical analysis specific properties can be determined on thermoplastics, thermoset material and elastomers which help to characterise the materials, identify failure causes and assure quality.

Spectroscopic tests, such as infrared spectroscopy with ATR systems and microscopy or atomic absorption spectroscopy are mainly used for characterising polymer materials, additives and reinforcing materials. Viscosity determination and gel permeation chromatography analyse the molecular structure or changes in the molecular structure due to processing or ageing processes.

Key activities:
Analyses
Component parts/fittings
Films/sheets/geosynthetics/sports equipment
Profiles/sealants
Pipe systems

testing@skz.de
Product Inspection and Certification

In order to ensure that permanently products of impeccable quality are put on the market, suitability tests, functioning factory production controls and in many cases also third-party inspections by neutral testing laboratories and inspection and certification bodies are necessary. For more than 50 years now SKZ has been a partner to the plastics industry when it comes to testing, inspection and certification of plastic products.

The SKZ is a type-A inspection body accredited in accordance with DIN EN ISO/IEC 17020 ensuring the quality of production processes and supervising for example building sites.

Our activities cover a wide range of products, such as pipes and pipe systems, bearing structures, storage and transport containers, plastic window profiles, geosynthetics, roofing membranes, foils, synthetic turfs, WPC products and sealants.

For many years now, we have been inspecting and given expert’s opinions on containers for storing water polluting liquids, various building products and bearing structures within the scope of type approvals. On behalf of the Federal Institute for Materials Research and Testing (BAM) we perform audits and inspections also for transport packaging regulated by the dangerous goods legislation in accordance with the UN rules of the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

Our "PÜZ" board ("Prüfung, Überwachung, Zertifizierung" = TIC, Testing, Inspection, Certification) is recognized by the German Institute for Civil Engineering (DIBt) for the testing, inspection and certification of building products in accordance with the construction products list. For our inspections we can rely on our own, highly-qualified and experienced plastics and civil engineers. The test and approval specifications in accordance with which we work comprise e.g. the DVGW regulations for the gas and water supply, testing according to the approvals of DIBt, the certification programmes of DIN CERTCO as well as further national and international regulations. For new products for which there do not exist any standards or regulations yet, SKZ prepares own specifications for testing and inspection. For the following product groups, for example, SKZ has already issued these specifications: semi-finished products (e.g. multilayer composite pipes, heating pipes, cable protection pipes), geothermal probes, metal gratings, hand held foams, drainage panels and pipes, bottle grates and joint sealants.

Products which are tested according to the SKZ specifications for tests and inspection are awarded with the SKZ quality mark. The worldwide distribution of the SKZ mark proves the significance and success of this concept for the plastic industry, thus making us an attractive partner for foreign clients.

Key activities:
- Pipes and fittings
- Window profile systems
- Component parts
- Foils
- Geosynthetics
- Moulded parts
- Dangerous goods packagings
- Sports surfaces / sports equipment
- Sealants
- WPC products

inspection@skz.de
Industrial Consulting and Failure Analyses

The Industrial Consulting division supports our customers with a comprehensive service package, ranging from product development to failure analysis. Every year we prepare more than 200 failure analyses, among others for the following interested circles:

- producers and users of plastic parts
- automotive industry
- construction industry (e.g. distributors, suppliers)
- electrical engineering
- medical engineering
- producers of material and semi-finished products
- welding
- courts
- insurance companies

For the failure analyses, we bet on our testing laboratory which is accredited in accordance with DIN EN ISO/IEC 17025 and is equipped with state-of-the-art technologies such as scanning electron microscopy and computer tomography.

The expert reports are based on a holistic consideration of the cause of defect of the plastic material, processing, product design and the environmental influences. Apart from the preparation of expert reports and the corresponding improvement suggestions, the service offer of SKZ also includes the application technology consulting directly at the processing machine. This way we can offer our customers a modular omnidimensional package. SKZ does not leave the place until the problem is solved successfully once and for all.

In more than 20 years SKZ has gained a wealth of experience in the field of failure analysis. However, unfortunately, if a damage happens, it is already too late or, to use an English phrase “it’s too late to close the door after the horse has left the barn”. For this reason our industrial consulting services focus on the following:

- material research
- revision of the product design
- selection and evaluation of production technologies
- feasibility analysis with risk assessment

In their capacity as development consultants the experienced SKZ experts are often temporarily integrated in the development teams of the customers. They participate in development meetings and then deal with individual projects at SKZ. We are convinced that: service makes the difference.

Key activities:
- Process optimization
- Process analyses
- Mould proving
- Optimization of mould tool maintenance
- Preparation of material specifications
- Preparation of moulding tool specifications
- Set-up time analyses
- Moulded parts testing
- In-house training

consulting@skz.de
Component and Moulded Parts Testing

In the field of component parts, the testing is conducted according to rules and standards, such as the building law with the various state building regulations (“Landesbauordnung” LBO) with the associated regulations, as well as on European level according to the Construction Products Law (CE marking). These regulations, which place high demands on the product properties and behaviour, serve to protect the population and ensure the conservation of the environment. This applies in particular to bearing structures and products intended for the storage of liquids endangering the ground water.

In the field of these goods packagings, laws and regulations relating to dangerous goods, such as the Dangerous Goods Transportation Act (GGBedG) or the Road, Railway and Waterway Dangerous Goods Directive (GGVSEB), aim at protecting the population and the environment from dangers in connection with the transport of dangerous goods. The tests can also be based on German, European and international standards as well as on customer-specific test specifications, such as company standards.

For many years now, SKZ has been testing and given expert’s opinions on storage containers, building products and bearing structures within the scope of type approvals and approvals in single cases. The product range comprises for example blow and rotationally moulded containers, welded containers made of thermoplastics or laminated containers, roof and wall elements made of thermoplastic and composite materials, textile membrane and load bearing structures, manholes for sewer rehabilitation, manhole elements for sewage and cable laying, fibre composites for building construction or boat building and surface coating systems.

Apart from the testing of component parts, we also perform external surveillance. SKZ has been recognized as “PÜZ” board (“Prüfung, Überwachung, Zertifizierung” = TIC, Testing, Inspection, Certification) for the testing, inspection and certification of building products according to the Construction Products List. SKZ is recognized by the Federal Institute for Materials Research and Testing (BAM) as inspection body for the performance of audits and inspections in accordance with BAM GGR 001. We perform further inspection activities on behalf of different quality associations, such as tests in accordance with the quality and testing regulations of the quality association for wood-based panels (Qualitätsgemeinschaft Holzwerkstoffe e.V.) for gaining the quality mark for WPC terrace decks.

Testing of expansion joints

In future, we are performing bursting pressure and long-term hydrostatic pressure tests on PTFE expansion joints in large circulating air drying cabinets. Such expansion joints are used in the chemical industry, e.g. for the compensation of thermal expansion and the moderation of oscillations and vibrations in industrial piping systems.

SKZ is the only testing laboratory to offer its customers these new services with immediate effect.

Key activities:
Component parts:
  Mechanical tests
  Creep tests
  Resistance tests
  Specifically adjusted component parts tests
  components@skz.de
Moulded parts:
  Type tests in accordance with existing guidelines
  Quality assurance
  Individual test programmes for non-standardized products
  mouldings@skz.de
Films and Sheets

No matter whether garbage bags, packaging and agricultural films or roofing and sealing sheets regulated by the Construction Products Law are concerned - we always set our focus on product-relevant properties which we determine within the scope of suitability tests, quality assurance measures or expert reports.

The testing possibilities for characterizing the properties of film and sheet products are as diverse as their applications.

Within the scope of laboratory tests we determine the mechanical properties (e.g. tensile properties, resistance to tearing, peel and shear resistance of joints, flexibility at low temperature, resistance to impact, hail resistance), resistances (e.g. weathering resistance, resistance to root penetration, chemical resistance, resistance to oxidation), hydraulic properties (e.g. water impermeability) and physical properties (e.g. gas permeability, dimensional stability) in accordance with almost all common standards.

We also offer you to test according to your specifications or prepare application and problem-specific test programmes which are tailored to your requirements.

In the agricultural field we carry out quality assurance of

- silo foils
- stretch films
- bale net wraps
- asparagus films

E.g. according to the specifications of the German Agricultural Association (Deutsche Landwirtschaftsgesellschaft e.V. - DLG).

Within the scope of the CE marking, SKZ tests the following flexible sheets for waterproofing:

- underlays according to EN 13859-1, -2
- vapour control layers EN 13984 and EN 13970
- roof waterproofing according to EN 13956 and EN 13707
- water-proofing of buildings according to EN 13967 and EN 13969
- damp proof courses according to EN 14909 and EN 14967

The corresponding application standards of the flexible sheets for waterproofing consider the relevant product characteristics and test methods.

Within the scope of our quality assurance activities in the field of films and sheets, apart from testing our main focus is on the inspection and certification.

Key activities

Testing of product characteristics
CE marking of flexible sheets for waterproofing
Testing of agricultural films according to DLG test specifications
Quality assurance
Preparation of national technical approvals
PÜZ board according to state building regulations (LBO) and Construction Products Law (BauPG)

films@skz.de
In the field of sewer rehabilitation by means of relining we perform material and approval tests, suitability tests and on-site tests. Our range of services for the testing of GFK pipes for industry, water and sewage applications is continuously extended.

If you want to position your product successfully on the market, make use of our excellent testing facilities in combination with the know-how SKZ guarantees in processing and testing.

With SKZ test reports and certificates your products have the best prerequisite for international success.

Testing of sanitary tapware and building valves

In our testing laboratory a unit was established to test component properties of valves for water and building installations according to current national and international standards.

The testing range comprises hydraulic, mechanical, bending moment, tightness and long-term tests as well as pressure loss, volume flow rate and water hammer tests including pipe coupling and hydrant tests.

Besides, we can carry out corrosion tests as well as chemical analyses of the valve materials. Testing of heavy metals in the valve material and of galvanic coating is also possible.

Our test program is completed by the assessment of defective valves.

Key activities:
- Testing of pipes and fittings according to national and international standards and guidelines
- International recognition as testing, inspection and certification body for pipe systems

pipes@skz.de
Plastic Windows, Profile Systems and Components

Plastic windows are used in almost all regions of the world, ranging from Scandinavia to Australia via China to North and South America. The plastic frame profiles used must be able to permanently withstand wind, rain, solar radiation and the mechanical stress from the operation. In order to ensure that the characteristics of the plastic window profiles are properly adjusted to this range of requirements, it is necessary to revise the properties within the scope of suitability tests and to monitor the properties achieved during series production regularly. At present, SKZ monitors approx. 60 production sites worldwide.

The frame material of nearly 60% of all window elements consists of the plastic PVC-U. This area comprises:

- plastic window profile systems made of PVC-U for windows and front doors
- laminated plastic window profiles
- colour-coated plastic window profiles
- coextruded plastic window profiles with acrylate coatings
- fibre reinforced plastic window profiles

The fitness for purpose of windows depends considerably on the properties of the sealing profiles. Our testing and third-party inspection activities do not only refer to sealing profiles but also to the sealing material used (EPDM, TPE, PVC-P).

We can also implement individual tests already during the development phase. Thus, we can assist you for example by testing ageing resistance, chemical resistance or the elongation and compression properties in order to ensure the quality of the products also in the long term.

Within the scope of effective cooperative relationships, the tests on plastic window systems are conducted according to product standard DIN EN 14351-1, RAL-GZ 695 and RAL-GZ 716.

This includes classical window system tests, continuous performance tests and the determination of heat transfer coefficients.

Our portfolio comprises also testing of burglar resistance and the ventilating properties of plastic windows and doors.
Geosynthetics

In the building sector plastics are of increasing importance. Geosynthetics represent a relatively new application area.

Geosynthetics are construction products, at least one of whose components is made from a synthetic or natural polymer material, in the form of a sheet, a strip or a three-dimensional structure.

These products are employed e.g. in the construction of roads and other trafficked areas, the landfill construction, as well as for the use in earthworks and foundations and for erosion protection, where they are installed appropriately in contact with the adjacent soil. The generic term geosynthetics comprises product groups such as:

- geotextiles
- geogrids
- drainage mats
- geosynthetic barriers
- erosion protection systems

The functions of these products are separation, filtration, drainage, reinforcement, protection, barrier function and surface erosion control. In many fields of application, such as in landfill construction, geosynthetics take over the major barrier function. In this application, the long-term behaviour is to be proved for more than 100 years. Therefore, appropriate tests and inspections are essential.

SKZ tests, monitors and certifies the production of geosynthetics all over the world. Within the framework of the tests the mechanical properties (e.g. tensile behaviour, creep behaviour, mechanical damage under repeated loading), resistances (e.g. resistance to weathering, resistance to roots, stress cracking resistance, resistance to oxidation during high-pressure autoclave test), hydraulic properties (e.g. water permeability, water tightness) and system tests, such as large-scale friction tests.

Throughout Europe geosynthetics must be CE-marked. SKZ conducts the certification of these products on a large scale. Continually, new geosynthetics are being developed and newly developed raw materials are being put on the market. The research and development division of SKZ analyses and examines the suitability and durability of these products.

Key activities:

Tests on geosynthetics
CE marking of geotextiles
CE marking of sealing sheets
Research and development of geosynthetics

geosynthetics@skz.de
The services offered by SKZ also include the determination of the safety against ball throwing on building elements (e.g. glazing) in sports facilities.

One of the core competences of SKZ is the testing and validation of sports equipment for the professional and popular sports. For some time now SKZ has conducted exclusively for the International Table Tennis Federation ITTF tests on table tennis balls and table tennis bat covers, which are used by professional athletes for contests. This is to ensure that the contests are conducted under reproducible conditions so that victory or defeat only depend on the athlete.

Another field of activity is the testing of sports surfaces and synthetic turf. The synthetic outdoor surfaces for sports, such as outdoor tracks and small playing fields, as well as surfaces for indoor facilities for multi-sports use are tested and evaluated on the basis of suitability tests conducted in the accredited laboratory as well as in-situ control inspections on the installed product. For the building contractors, the executing companies or the sports associations, these tests are therefore an important means for assessing the quality of the building work.

Sports Surfaces and Sports Equipment

Modern plastics have become indispensable in the sports and leisure sector. In professional sports, plastics sometimes decide victory or defeat and in popular sports plastics have made particular kinds of sport possible at all. Plastics are not only used for sports equipment or sports wear, but also for the production of components for the functional and safety equipment of sports facilities. Apart from the technical properties, sports surfaces for example feature also characteristics with regard to protective and sports functions which are very important for the athlete and the match. When it comes to assessing floor coverings and equipment, the suitability for the specific application plays a major role. In some areas, plastic products have long since replaced traditional materials. In the case of field hockey, the world association FIH - which has recognized SKZ as an accredited testing laboratory - explicitly stipulates that higher level matches take place on synthetic surfaces.

Tests within the framework of quality assurance make sure that the determined or demanded properties of the sports surface or equipment are implemented in a safe and reliable way. This becomes more important as the safety of the athlete depends on the product. SKZ e.g. tests whether the fall protection surfaces for children’s playgrounds meet the functional and safety requirements of DIN EN 1177.

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Key activities:
- Elastic floor covering systems
- Synthetic turf systems
- Synthetic surfaces for outdoor tracks and small playing fields
- Surfaces for indoor facilities for multi-sports use
- Elastic surfaces
- Fall protection surfaces and safety mats
- Crash walls and other sports hall elements
- Equipment (balls, rackets)

sportssurface@skz.de
Adhesives and Sealants

While adhesives must connect different materials, sealants are designed to prevent media from passing through. Sealants used in expansion joints must ensure both. Products for sealing and bonding are often subjected to various mechanical, thermal and chemical stresses when in use and must meet the requirements on a sustained basis.

As an accredited and notified inspection body, we perform suitability tests in accordance with numerous German, European and international standards. The tests on sealants, elastomers and adhesives are defined e.g. in the following specifications:

- DIN 18540, DIN 18545-2, ISO 11600
- DIN EN 15651-1 ff. Joint sealants for use in facade elements, glazing and sanitary or floor joints
- Principles for approval, e.g. for the sealing of construction works for the containment, handling and filling of water-endangering substances; facilities for the containment and filling of liquid manure, slurry and silage leachate; waste water systems
- RAL-GZ 716
- DIN EN 681

Due to cooperation in expert and standard committees of DIN, CEN and ISO our experts are familiar with the latest know-how. Thus, we can support you already during the development phase with material and product tests according to your requirements. In addition to tests of the mechanical properties, focus is also placed on the permanent assurance of product quality by means of weathering (ageing behaviour) and chemical resistance testing.

Some national and European approvals already demand the regular external monitoring, however often they stipulate only the initial type testing (determination of the product type). In many cases an external quality assurance by our accredited product certification body with monitoring by our inspection body helps you to maintain a consistently high product quality.

Key activities

- CE certification of sealants
- Quality assurance
- Preparation of national test certificates
- Testing of durability of adhesives and sealants
- Elastomer testing

sealants@skz.de
Testing of Ageing Behaviour

Ageing/weathering Products made of polymeric materials change their material properties irreversibly when exposed to UV radiation, rain and temperature. The ageing behaviour has a different effect on the various product characteristics, such as colour or mechanical parameters. For this reason, the producers and processors of polymer materials require a quick assessment of the ageing behaviour under everyday conditions. SKZ has a more than 30-year experience in performing and assessing accelerated weathering tests with Xenotest, Suntest and QUV test units. Kalahari tests, Florida tests or tests according to national and international standards as well as specifications of the automotive industry can be conducted. Climatic changes tests at different humidity under extreme conditions are possible in the temperature range of -70 °C to 180 °C.

Thermo-oxidative degradation For the long-term application, plastics are stabilized especially with antioxidants in order to prevent or even considerably delay the thermo-oxidative degradation which is accompanied by a chain degradation and an embrittlement of the plastic. The classical test method for assessing thermo-oxidative stability is the oven ageing at high temperatures which, however, constitutes primarily a comparative procedure. For 10 years now, SKZ has been betting on high-pressure autoclave bag moulding, a new test method to determine the thermo-oxidative service life of plastic products. Within the scope of this method, the plastic product is stored in pressure tanks and simultaneously subjected to moderately elevated temperatures of up to 90 °C and increased oxygen pressures of up to 50 bar. Both parameters accelerate the thermo-oxidative degradation. Subsequently, a service life forecast is made by means of an extrapolation to application conditions (e.g. 20 °C and atmospheric pressure) in order to determine the time to thermo-oxidative failure under operating conditions.

Key activities
Ageing/weathering: Xeno-Test, QUV-Test, Hot light ageing, Climatic changes test
analytics@skz.de

Key activities
Thermo-oxidative degradation: High-pressure autoclave bag moulding, Oven ageing
geosynthetics@skz.de
The German Plastics Center SKZ is the reliable partner for all kinds of services in the field of plastics processing. The comprehensive portfolio of SKZ ranges from training courses, certifications and R&D services to the testing of finished products, offering everything a plastics processing company needs in order to produce high-value, innovative products at a high quality. These product innovations often require customized or even newly developed methods to test the quality. New Businesses’ surveys these developments and expands the test program offered by our testing laboratory accordingly. Thus, we are gradually extending our pipe testing by adding testing methods for pipes and plastics materials which are intended for the distribution of potable water. With this approach we want to offer our customers inspection and testing from a single source extended by the expertise of potable water applications.

Thanks to the continuous advancement of knowledge, today’s products and compounds are considerably more efficient than 20-30 years ago. This results in even greater demands on testing. Modern test methods have to work much more precisely and, at the same time, as quickly and cost-effectively as possible. Due to the close cooperation with the R&D division of SKZ, we can employ cutting-edge procedures for the products of our customers. This way you receive accurate test results in the shortest period of time. A prime example is the high-pressure autoclave technology which is used for the accelerated simulation of thermo-oxidative ageing. So far mainly applied in the field of geosynthetics, this technology can test an ageing process of approx. 100 years within just a few weeks, whereas conventional tests usually take more than 1 year.

The testing laboratory of SKZ always bets on state-of-the-art equipment and methods, thus guaranteeing precise results for our customers. By participating in various standardization committees we are striving to integrate these methods in the relevant standards in order to achieve a high degree of quality assurance. Along with extending and enhancing the testing services, New Businesses’ observes and accompanies topics of future relevance for the plastics industry so that we can offer our customers and the SKZ network customized solutions at an early stage. Thus, in the future market of biopolymers we can already today determine the content of renewable resources in the polymer by means of the C14 method (Advanced Mass Spectrometry (AMS)).

As a competent partner to the plastics industry it is part of our corporate identity to address new developments and trends early on. For this reason our ’New Businesses’ will continue operating in a target-oriented way in future markets.

New Business Areas

Key activities:
- Biopolymers
- Hygiene and microbiology
- Development-accompanying test
- Open Innovation
- Evaluation of formulations
- Electromobility

innovation@skz.de
International Activities

SKZ location in the United Arab Emirates (U.A.E.)
For approx. 15 years now, SKZ has been testing the quality of plastic products manufactured in the Persian Gulf region. Within the scope of the inspection activities product audits are performed at the customer’s site and samples are taken which are sent to the accredited testing laboratory of SKZ in Würzburg for testing.

Since 2008 we have been offering certified plastic welders training courses for HDPE piping networks in gas and water supplies in Dubai in cooperation with BMC Gulf L.L.C.

In the Middle East our services with regard to major construction projects often are in demand. Ranging from the quality assurance of pipes and fittings at the producer via the training and certification of welders, e.g. for PE-HD pipes on the basis of DVGW regulations, to the monitoring of the welding at site including quality control tests of the welded joints - the SKZ offers everything from a single source.

Thus, it is ensured that on the one hand high-quality products are applied and on the other hand that the installation/processing of these products on site is carried out by well-trained and skilled staff.

In addition to these activities, SKZ plans to operate a testing laboratory for plastic pipes and other plastic products in Abu Dhabi in cooperation with GPPA (Gulf Plastics Pipe Academy). The services SKZ offers in the Middle East contribute to a sustainable development of the local infrastructure and the responsible approach to drinking water as well as the saving of this scarce and valuable resource.

Competence Centre Polymers in Civil Engineering KIB
SKZ, individual specialist departments of the German Institute for Building and the Environment (IBU) and the Institute for Materials Technology and Plastics Processing (IWK) form KIB, the Competence Centre Polymers in Civil Engineering based in Rapperswil SG. As an interdisciplinary network between the University of Applied Sciences Rapperswil (HSR) and neutral specialist agency, the newly established competence centre offers the industry partners and the public sector support in the following core areas:

- Consultancy and project support of building owners, planners and engineers in civil engineering, in the fields of building waterproofing, geosynthetics in earthwork construction and water engineering, pipe systems etc.
- Scientific and neutral elaboration of knowledge as well as assessment of the R & D demand in the building practice
- Planning and performance of quality assurance measures: material selection, installation, certification and third-party surveillance
- Preparation of reports and expertises analysing deficiencies and failures recorded on plastic components
- Accredited tests on components
- Development and production of new and optimized products and materials by means of compounding, extrusion or injection moulding
- Offering special events:
  - Consideration of “sustainability” relating to the use of plastics and recycling

Contact
HSR Hochschule für Technik
Rapperswil – Kompetenzzentrum
Kunststoffe im Bauwesen KIB

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As the largest plastics institute in Germany we offer practical solutions – tailored exactly to your requirements. For the past 50 years now we have seen ourselves as a partner to the plastics industry providing extensive system expertise:

By means of **Testing and Quality Assurance** we support your product policy, supplying you with valuable arguments for your key markets. With more than 10,000 participants each year, we are the market leader for **Training and the Transfer of Knowledge** in the field of plastics. Our **Research** division bets on the development and improvement of production technologies in line the market requirements. With the **Certification of Management Systems** we offer you the best prerequisite for efficiency and economic success.

**Become part of a strong community!**

With more than 390 members, the association for the promotion of the SKZ currently constitutes the most important and dynamic network in the field of plastics. Benefit from the numerous opportunities for cooperation achieved through the networking of experts from all areas of the plastics industry. Our network reflects the wide spectrum of the industry and offers excellent opportunities for the cooperation of economy, science and politics. For further information, please visit [www.skz.de](http://www.skz.de) or contact us at [fskz@skz.de](mailto:fskz@skz.de)