



Energy Division

Raychem Cable Accessories
Ottobrunn/Munich, Germany
Innovation – Competence –
Experience – Reliability

 **Tyco Electronics**
Our commitment. Your advantage.

TYCO ELECTRONICS (TEL)

Tyco Electronics has a dynamic history, growing rapidly over the past six years. We now are one of the largest electronics companies in the world, with almost \$13 billion in revenue in 2006. We operate in 54 countries, serve over 200,000 customers around the globe, and manufacture and supply over 500,000 different products. We have an excellent foundation and global team of almost 100,000 employees with the desire to make the company great.

With over 8,000 engineers and worldwide manufacturing, sales and customer service capabilities, Tyco Electronics' commitment is our customers' advantage.



About Energy



TYCO ELECTRONICS' ENERGY DIVISION

With 4,000 employees and more than 10,000 customers worldwide, the Energy Division is an operating unit of Tyco Electronics. We are a global supplier to power utilities and power industry customers, equipment manufacturers, and transport systems. These customers are served by dedicated R&D teams, sales representatives in more than 80 countries, a professional marketing organization, and manufacturing sites in five continents.

Our product range includes: cable accessories, connectors and fittings, insulators, insulation and surge arresters, power measurement and control, switching and protection, and street lighting control systems.

Our Mission

We aim to be recognized as the world leader and supplier of innovative solutions all along the power line from generation to the end user.

Our Strategy

- Delivering excellent customer value - price, quality, delivery and service
- Keeping direct contacts and relationship with industry end users and decision makers
- Development of new products, systems, and services
- Investing in R&D to sustain innovation and technology leadership

Our manufacturing sites around the world:

Region	Country	Site
Europe / Middle East / Africa	Ireland	Shannon
	UK	Aldridge
		Witham
		Wohlen
	Switzerland	Gevrey Chambertin
	France	Ottobrunn/Munich
	Germany	Falkenberg
		Berlin
	UAE	Dubai
	Saudi Arabia	Damman
India	Bangalore, Mumbai	
Czech Republic	Trutnov	
America	Canada	Markham
	Brazil	Bragança
	Mexico	Juarez
	US	Fuquay-Varina Kennesaw
Asia / Pacific	Thailand	Bangkok
	Indonesia	Jakarta
	Malaysia	Kuala Lumpur
	China	Shanghai
		Zibo
	Australia	Wyong

About the Ottobrunn/Munich site

Details of the headquarters in Ottobrunn/Munich

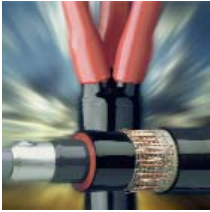
Tyco Electronics Energy Division:
Headquarters Ottobrunn/Munich,
Germany

The main Hub for cable accessories is Ottobrunn/Munich, where heat-shrinkable tubing manufacturing is located.

The moulded parts are manufactured in Shannon (Ireland), Trutnov (Czech Republic) and Mumbai (India).

- 173.000 m² Area
- About 700 employees





Connecting the World of Power

Energy Division offers products and systems for the electrical power industry that are extensively employed by power utilities and equipment manufacturers, in rail transport systems and in industry around the world. We are a leading global supplier of

- Cable Accessories
- Connectors and Fittings
- Insulators and Insulation
- Surge Arresters
- Switching and Protection
- Lighting
- Power Measurement and Control

Our wide range of reliable and cost effective solutions is continuously growing through research-driven product development.

Our global network of technical and sales representatives provides expert application and engineering assistance, hands-on field training and continuous after-sales support. Expertise of over 40 years in materials science, product design and process engineering goes into the invention, development, manufacture and marketing of high-performance products that help our customers successfully master the challenges of their businesses.

Our strength and competitive advantage

- In-house design and development, materials formulation, testing and manufacturing for our core businesses:
 - Heat-shrink
 - Resin
 - PowerGel
 - Elastomers
 - Connectors
- Customer focused organization – customer tailored products
- Innovation and technology driven
- Geographic coverage, local support
- Broad product offering from recognized brands
- Industry leadership and expertise
- Decades of knowledge and experience
- Structural and financial strength

Our global expertise and local support

With manufacturing facilities across five continents, we can react promptly to customer requirements and keep lead times and shipping distances to a minimum. An effective product supply chain ensures products move from origin to installation without delay. Local customer service centres offer a single point of contact with staff that can provide country-specific support based on the needs of each region. By combining local knowledge with world-class research, product development and manufacturing capabilities, we set high standards of performance and user convenience.

Markets we serve

Electrical Network

- Generation
- Transmission
- Distribution

Industrial & Construction

- Heavy Industry
- Light Industry
- Building construction
- Equipment Manufacturers

Infrastructure

- Lighting
- Transportation

Cable accessories technologies

Under the well-established product brand name Raychem, Energy Division offers a comprehensive range of cable accessories for all cable types. Many innovative utilities and industries around the world - including, mining, marine, offshore and nuclear - use our power cable accessories and have done so for more than 40 years. Designed to withstand environmental extremes and high pollution levels over long operating lifetimes, they help maintain service reliability in both overhead and underground installations. We have developed specially formulated insulation materials that resist degradation caused by tracking, erosion, ultraviolet light and other environmental stresses.

Product Features

Basic design and material research have been systematically improved over more than four decades. Thorough research in close cooperation with our customers and universities has produced new materials for the electrical power industry. The result is a wide range of products with an excellent combination of properties such as:



Insulation-thickness memory



Moisture blocking



Shape memory



Improved flame resistance



Excellent resistance to surface electrical activity



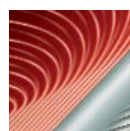
Elastomeric technology



Increased resistance to thermal ageing



Resin technology



Electrical stress control



PowerGel



Void-free interfacial bonding



Mechanical connecting systems



Impermeability to cable oils

Cable accessories products up to 170 kV



Low Voltage Joints

Raychem products offer excellent insulating and sealing performance with heat-shrinkable, gel and resin materials. These proven materials form the basis of straight and branch joints for voltages up to 1 kV.



Low Voltage Terminations

Consistent performance in harsh environments – such as extreme temperatures, atmospheric pollution, and ultraviolet light – has proved the reliability of Raychem terminations.



Cable Feedthroughs

These proven sealing systems are designed for plastic, concrete or steel duct cable entries into buildings and manholes of Raychem heat-shrink and cold-applied technologies.



Medium Voltage Joints

Millions of medium voltage Raychem heat-shrink joints up to 42kV have been installed on paper and polymeric cables worldwide, in extremely severe service conditions, and under high electrical, thermal, mechanical and environmental stress. The reliability of the technologies is proven and the heat-shrink technology has the versatility to joint most cable types.



Medium Voltage Terminations

Our medium-voltage Raychem heat-shrink terminations up to 42 kV have been used by utilities and industrial organisations worldwide for more than three decades. They employ impedance or ceramic stress control systems and are based on proven anti-tracking, erosion- and UV resistant insulating material for indoor and outdoor applications.



Medium Voltage Switchgear Connection Systems

Raychem heat-shrink and cold-applied insulated or screened systems for switchgears up to 42 kV with standardized bushings for 250 A and 400/630 A have been installed by utilities and industrial customers worldwide for more than 20 years.



High Voltage Joints and Terminations

Using our knowledge and experience in the field of material design, we have pioneered some of the most important technical advances in cable accessory technology. Heat-shrinkable accessories are well accepted for medium voltage distribution by utilities, equipment manufacturers and industrial users throughout the world. For more than fifteen years, accessories have also been available for 69 kV, 72 kV, and 84 kV transmission voltages. For higher voltage classes we offer 110 kV to 170 kV prefabricated joints and terminations for indoor and outdoor switchgear and transformer applications.

Quality is the main focus of our activities



Our success depends on our customers' satisfaction. Only by understanding the needs and requirements of our customers and ensuring that our services meet or exceed their expectations in all respects can we ensure their satisfaction. Excellent quality of products and services are preconditions for a top position in the international market. Competitiveness, competence and long-lasting economic success are the focus of our company goals.

With the implementation, certification, maintenance and continual improvement of the Quality and Environmental Management System as per DIN ISO 9001 and 14001, our focus is to fulfil these very high demands.

Quality Management and Operational Excellence:

Our Quality Policy and the principles of Operational Excellence are defined in the four basic principles:

Customer Satisfaction

- By the implementation of appropriate processes, we ensure that our customers needs and requirements will be fulfilled.
- By long-lasting partnerships, we want to win and maintain our customers' confidence.

Six Sigma

- We will continually improve our products and processes as well as the entire process control organization by the application of Six Sigma.



Error-Free Products and Services On Time

Error-free products are our focus. Energy Division is committed to the continual improvement of the suitability, stability and efficiency of all processes.



From this, we derive the following principles for our site:

- Application of new technologies, innovation in research and development
- Product design and improvement
- Continual control of the manufacturing processes, measurement, control of the products during and after all major manufacturing steps
- Continual traceability during all added value processes
- Integration of our suppliers in our QM philosophy by effective vendor management and vendor audits
- Environment-friendly and safe packaging of our products and their distribution by renowned carriers worldwide.



Continual Improvements

- Specification of the requirements of the products and processes by means of documented specifications, test and process instructions
- Permanent measurement, control and supervision of the core processes by application of an intracompany Balance Score Card (BSC)
- Regular quality and environmental audits in all business units
- Regular management reviews to control the adequacy and effectiveness of the systems and processes, and that all applicable laws, regulations and requirements are observed
- Integration of all employees into the QM-System to encourage their sense of responsibility and to achieve satisfied and motivated employees by means of workshops, training, seminars and exhibitions
- Numerous audits of our customers at the Ottobrunn/Munich site are proving the quality capability by our company and contribute to a further optimization of our processes and systems
- Special marking, that allows fully traceability back to the compound formulation.

Environmental management, work and health safety



Protection of the environment and responsible handling of natural resources are integral parts of our Environmental Policy. Our objective is to continually improve our environmental protection and keep negative impacts as low as possible. This is being accomplished in line with our company goals and the concerns of the employees and the public. Promotion of work, health and plant safety are major company priorities.

The principles of our Environmental Policy are

- Our products are developed, manufactured and sold in compliance with all applicable regulations and legal provisions.
- We analyze our impact on the environment and the results are reflected in the product and process planning.
- We ensure that all our employees are environmentally conscious by actively involving them in our Environmental Policy.
- We inform our customers how to handle our products environment-friendly and encourage our business partners to adopt our standards.
- We take all necessary and appropriate steps to avoid environmental damage and minimize the negative impact of our products on people and nature.
- Regular internal and external audits ensure continual improvement of our processes and the Environmental Management System.

Excellent supply chain performance



Logistics – the flow of material, information and money between customers and suppliers – has become a key performance business process of Tyco Electronics Energy Division. Supply Chain strategy supports our company's overall objectives; it covers essential supply chain subjects including:

- on time delivery performance and improved customer service
- inventory planning, forecasting and demand planning
- physical distribution, material and information flow

The Energy Division Supply Chain organization is a network of our different product businesses, including manufacturing facilities, information and handling systems that connect our supply points to our customers. The Supply Chain team act in concert with one another to maximize customer value along the logistics pipeline.

Over the years in Ottobrunn/Munich we developed a centre of supply chain excellence with a team of experts who daily link logistics externally to the customer base and internally to Sales, Product Management and Operations worldwide.

To optimize the customer response, the focus is on delivery, inventory, and distribution. Weekly reviews of our customer order backlog and sales forecast is the supply process of building inventory through manufacturing or procurement to the targets established in inventory planning and demand management. An integrated warehouse and distribution model links all consignment and safety stock commitments with physical delivery times to customer requirements with a global transportation infrastructure at extremely high delivery performance to customer request date.

Distribution HUB Ottobrunn



Three regional distribution centres (DC) are servicing our global customer base with defined key global carriers. Their quality performance is audited on a monthly basis to keep the transportation service level at above 98%.

The 3 DCs are located in

- Ottobrunn/Munich, Germany to service EMEA end customers as well global key customers and all Energy Inter-company sites
- Witham, UK for domestic value add and customer deliveries and
- Gevery-Chambertin for French domestic customers



Other DCs in Asia and America:

Asia/Pacific:

- Singapore
- Shanghai (China)
- Wyong (Australia)

Americas:

- Fuquay-Farina, NC (USA)
- Bragança (Brazil)
- El Paso (Mexico)

The main Energy Division distribution HUB Ottobrunn/Munich is a fully automated high-bay warehouse including the European Kitting Centre and is operating 24 hours/7 days.

Irrespective of where our employees are located in the supply chain, we always have a good team effort and relationship with our customers. Customer response is first because the customer response plan is the agreement between the supply chain organization and its external and internal customers.

Proven disciplines and excellent practice learned in supply chain development need excellent execution every day to continue to optimize the flow of information and product between supplier and customers.



All of the above information, including drawings, illustrations and graphic designs, reflects our present understanding and is to the best of our knowledge and belief correct and reliable. Users, however, should independently evaluate the suitability of each product for the desired application. Under no circumstances does this constitute an assurance of any particular quality or performance. Such an assurance is only provided in the context of our product specifications or explicit contractual arrangements. Our liability for these products is set forth in our standard terms and conditions of sale. Raychem, TE Logo and Tyco Electronics are trademarks.

Energy Division – economical solutions for the electrical power industry: cable accessories, connectors & fittings, electrical equipment, instruments, lighting controls, insulators & insulation enhancement and surge arresters.

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Our commitment. Your advantage.