

# Wind Power



*Putting safety first*



# Profiability is in the operational safety and cable transits is a vital part.

Offshore or onshore MCT Brattberg transits are the right choice. Wherever the wind turbines are to be placed, however high the demands on reliability and safety are, they are met by MCT Brattberg. Our quality products will dampen vibrations, reducing wear & tear on other components and provide critical integrity against wind, water and fire from the moment they are installed and for many years to come.

Our sealing systems provide an economical insurance for expensive structures which are continuously exposed to extreme elements. Our experience in hazardous areas has

shown that accidents do happen and our transits can provide safety to operatives and protect against costly repairs or downtime.

Saltwater is an aggressive element which is tough on all materials. It is therefore imperative our cable & pipe transits seal effectively around all utilities passing through them. Vibration can have a serious impact on components within a structure. This in turn can lead to costly repairs and reduced profitability from your assets. A Brattberg transit dampens vibrations effectively thanks to the unique rubber material.





# When valuable assets are at risk

When it comes to safety, we lean both against our long experience and independent tests. MCT Brattberg system was patented in the early 1950's. When oil rigs and nuclear power stations began to demand safe & reliable integrity for their cable & pipe penetrations, MCT Brattberg was the obvious choice. Even today we are an obvious supplier to any industry that demands quality, safety and reliability in their cable & pipe penetration seals. MCT Brattberg products are supplied through our own offices and agents Worldwide.

Our many years of experience and extensive pre-emptive testing program give us a reputation synonymous with quality. We will proudly provide test certificates from many certification bodies around the World to satisfy any regulatory demands.

Our products are tested, approved and certified by a large number of certification organizations, laboratories and customers. DNV has tested and approved the MCT Brattberg system in accordance with the Quality & Environmental Management system standard EN ISO 9001 and 14001, for the design, manufacturing and supply of fire barrier and sealed transit systems associated with cable and pipe routes in buildings and marine environments.

MCT Brattberg is also tested and certified by:

ABS, American Bureau of Shipping - Canadian Coast Guard - Bureau Veritas  
China Classification Society - Australian Maritime Safety Authority - DNV, Det Norske Veritas  
Korean Register of Shipping - Lloyds' Register of Shipping - Nippon Kaiji Kyokai  
Polski Rejestr Statkow - Germanischer Lloyd - Swedish Adm. of Shipping and Navigation  
Croatian Register of Shipping - RINA, Registro Italiano Navale  
Russian Maritime Register - US Coast Guard - US Navy - Underwriters Laboratories Inc.  
Underwriters Laboratories of Canada

MCT Brattberg is also certified according to MED, Marine Equipment Directive (via Lloyds' Register of Shipping)

Please consult MCT Brattberg for latest updated certificates and approvals.







MCT	30/0	30/0	30/0
30/0	30/0	30/0	30/0
30/0	30/0	30/0	30/0
30/0	30/0	30/0	30/0
30/0	30/0	30/0	30/0
30/0	30/0	30/0	30/0
MCT	30/0	30/0	40/0



# Strong credentials in the power industry



• Corrosion Protected lightweight transit is inserted into a turbine housing.



• Cable routing from the tower to transformer room



• Fire Rated transit offshore

The Brattberg sealing system was originally developed for use in a ship's hull where the strain was extreme due to the many vibrations, movements in the hull, temperature changes and corrosion.

Our cable & pipe penetration seals offer complementary protection for manufacturers, operators and contractors within the Renewable industry where safe & continuous

operation is paramount. Our products offer an advanced safety system which excels in extreme environments, driving costs down.

You can be sure that MCT Brattberg modular cable and pipe seals offer a quality 'fit & forget' solution that, if installed correctly, will protect against fire, gas, water, explosion, acid, ultraviolet radiation, pests, rodents, ageing and temperature

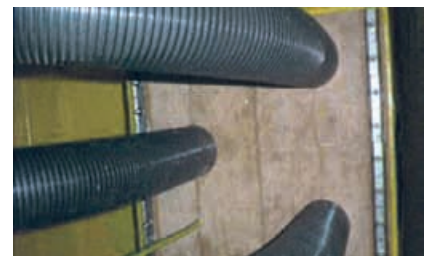




• Bolted transit for power cables



• RGP-transit enclosed in the power base.



• Special ordered solution for large underwater cables, in a "Substation"

variation for many, many years. Our blocks retain their shape and function. The MCT Brattberg system allows installers to quickly and easily establish a seal that will replicate the performance we achieve during witnessed tests. Failure due to installer error can be extremely costly due to many structures being remotely situated and having difficult access.

Our many years of experience in other industries including, nuclear, oil & gas and water provide us with the knowledge,

products and commitment to offer reliable and competitive seals which can help reduce your operational costs. In addition to our standard range of sealing products,

In addition to standard safety a Brattberg transit can also be equipped with electromagnetic protection, EMC, which secures sensitive electronic equipment and complete plants from interference and sabotage.

# A strong idea gave birth to a flexible solution

*Right from the start, Engineer Brattberg's patented transit system was a flexible solution. We follow in his footsteps. The system is based on standard units of Lycron through which cables and pipes of various dimensions are pulled. The system can adapt to any application and is easy to install. The safety lies in the simplicity. The system is intuitive, easy to understand, modify and reduces the risk of installer error.*

## **Standard Insert Block**

These blocks are used to build transits where the dimension of cables and pipes are specified. The insert blocks cater for diameters of 4-100 mm and clearly indicate their dimension on both ends of the block. Other dimensions can be delivered to special order, which also includes blocks for EMC protection, trefoil arrangement or specialist water cut.

## **AddBlock**

AddBlocks are the key when the dimensions of cables and pipes are not set or might vary. Each AddBlock covers five cable or pipe sizes. The inserts are fitted with a locating ridge that fits exactly into furrows in the main block. Due to this there is no risk of sliding or moving from vibrations in the plant.

## **U-block**

The U-Block is used to convert the external dimension of any Standard block, AddBlock or blank block to the next module size up. For example a 30/15 standard block can be enlarged by placing it into a U40, giving the new size 40/15. U-blocks also open up the possibility to centre a smaller cable next to a larger one, to maintain uniformity in a cable row.

## **Lycron**

A halogen-free rubber material, specially developed by MCT Brattberg to meet very particular specifications. Lycron is incombustible and emits no corrosive gases in the event of fire. It will withstand explosions: will not be affected by temperature or radiation, and ages extremely slowly. To learn more, please contact us and we will send you independent testing results as well as our own.

## **The frame**

The other key element of the flexible Brattberg system is the frame. We have full control over the manufacture of all variations, in different materials, in order to be sure that they meet both our own and statutory requirements for safety. The frames are made to be moulded, bolted or welded in place. There are also variations with open ends which allow for retrofitting around existing cables or pipes.



*Standard Insert Blocks accommodates cables and pipes from 4 - 100 mm.*

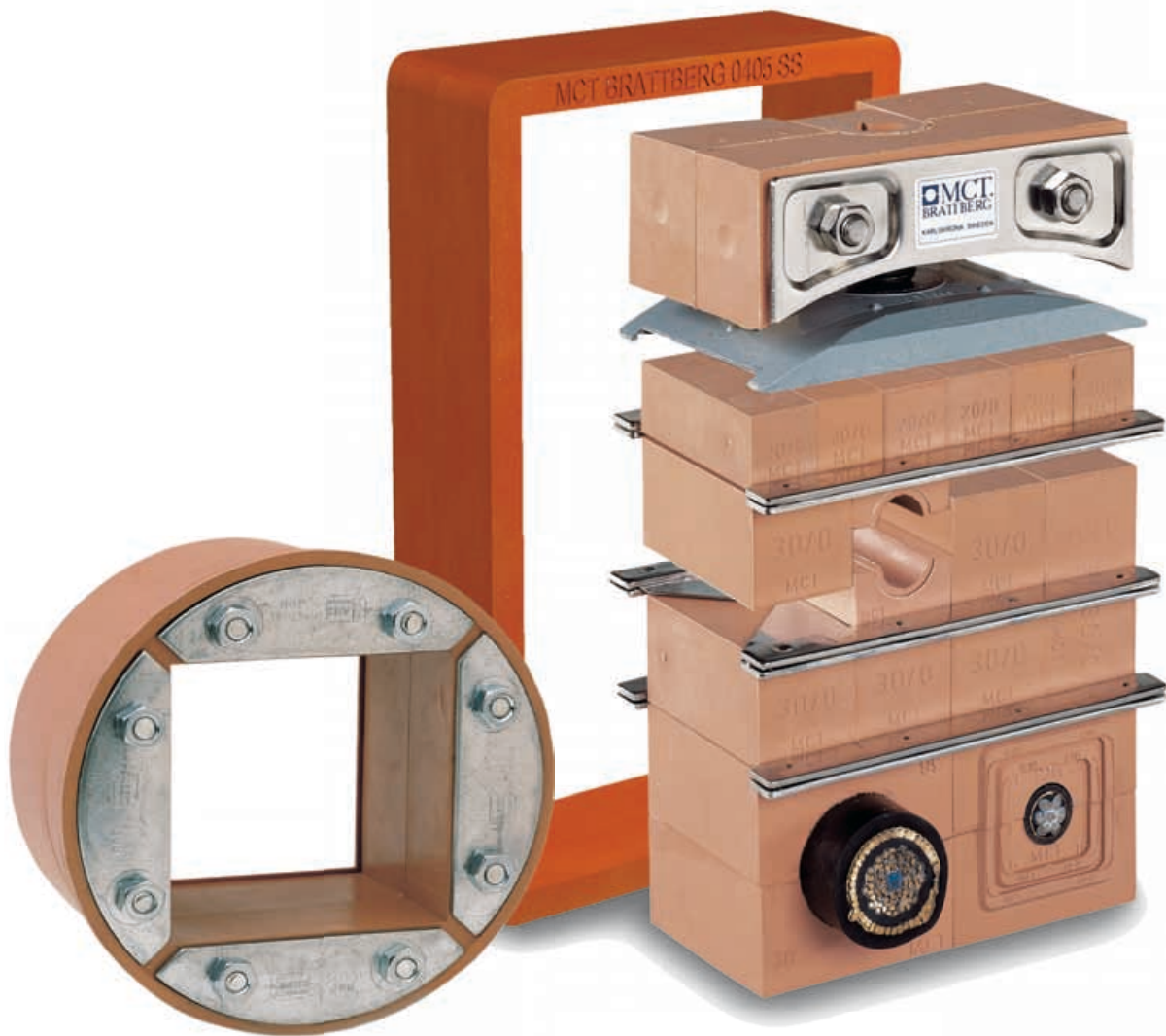


*Each Addblock with its four insert sheets fits five different cable pipe dimensions.*



*U-blocks provide additional flexibility.*





*Fully adaptable to seal all configurations allowing future capacity and easy upgrades.  
MCT Brattberg is supplied locally all over the world.*



*MCT Brattberg has supplied cable transits among others to Greater Gabbard, England, Sheringham Shoal, England and Horns Rev, Denmark*

# Custom-made for pressure applications

MCT Brattberg has a number of pressure seals, which are particularly suitable for cables and pipes in offshore wind power turbines or substations. They are named RGPM, RGPH and J-tube seals. These are custom-made to suit the number of cables or pipes passing through.

RGPM transits are approved for continuous pressures of up to 15bar. Hardware is supplied in stainless steel or hot dipped galvanized finish with nitrile rubber as standard. Other materials can be supplied on request. RGPH pressure seals are supplied, manufactured similarly to above RGPM but are approved for continuous pressures of 37bar for use in deeper water or more arduous environments.

Our approved J-Tube seals are manufactured to customer's specification. MCT Brattberg have supplied these to projects worldwide.



RGPM



RGPH



J-Tube Seals



# Product Programme

In MCT Brattberg you will find a wide product programme which suits many different industries. These are products that are tried, tested and certified to withstand extreme demands on integrity in many different environments and applications. We offer custom-made equipment at client or customer request.

Our Project Support arranges training courses to give skills and competence in how to choose, install and use all of our products in different environments.

MCT Brattberg also offers an online resource to guide and instruct called the Safety Club. This information can be found at [www.thesafetyclub.com](http://www.thesafetyclub.com).

On our website you can read more about our products and find contact information for our representatives and agents around the world. For technical enquiries, please do not hesitate to contact us. MCT Brattberg is always happy to answer your questions on safety & integrity with cable & pipe penetration seals.

## Frames



Frames are available in different materials, sizes, multiple frames and frames for different installations.

## Insert Blocks



Standard Blocks of pipe and cable dimensions 4-100 mm

AddBlock is available in 11 versions. Each covering 5 different cable & pipe dimensions.

U-Block is used to convert the external dimensions of Insert Blocks and Add-Blocks to the next modular size.

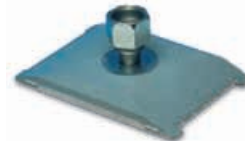
## Various components and accessories



Endpacking



Stayplate



Compression Plate



End Packer Pulle

Visit [www.mctbrattberg.se](http://www.mctbrattberg.se) for the complete product programme!



[www.mctbrattberg.com](http://www.mctbrattberg.com)

MCT Brattberg AB  
SE-371 92 Karlskrona  
Sweden  
Phone: +46-455 37 52 00  
Fax: +46-455 37 52 90  
E-mail: [info@mctbrattberg.se](mailto:info@mctbrattberg.se)  
Website: [www.mctbrattberg.se](http://www.mctbrattberg.se)

MCT Brattberg Ltd  
Commerce Street  
Carrs Industrial Estate Haslingden  
Lancashire BB4 5JT  
England  
Tel: +44 - 170 624 4890  
Fax: +44 - 170 624 4891  
E-mail: [info@mctbrattberg.co.uk](mailto:info@mctbrattberg.co.uk)

MCT Brattberg Inc.  
P.O. Box 374  
Spring Tx 77383  
USA  
Phone: +1 (281) 355 8191  
Fax: +1 (281) 355 8393  
E-mail: [info@brattberginc.com](mailto:info@brattberginc.com)

We have representatives in:

Austria - Australia - Brazil - Canada - China - Croatia - Denmark - Egypt - Finland - France - Germany - Greece - Hong Kong - Iceland - India  
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Visit our website or contact MCT Brattberg for details of your nearest distributor.