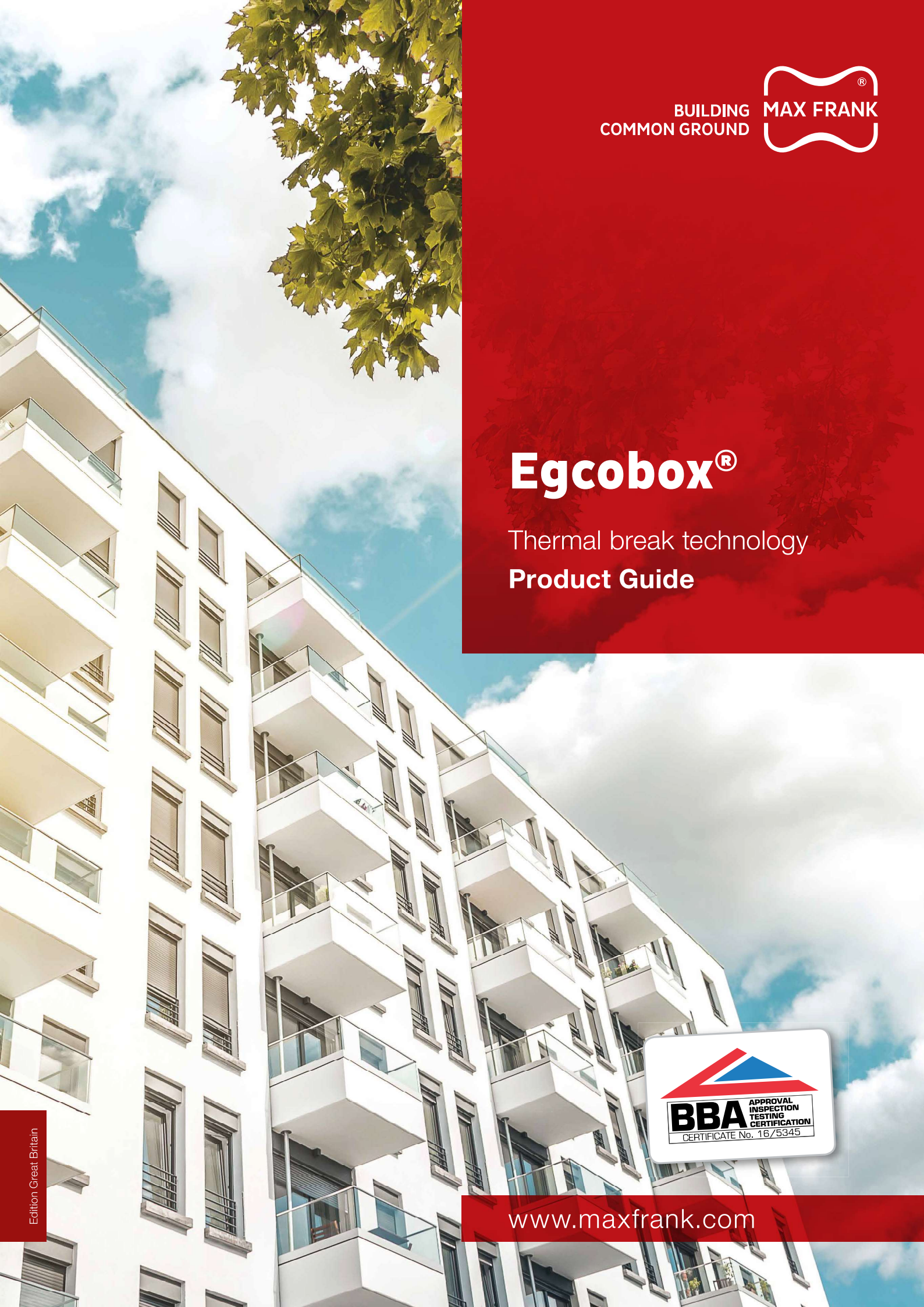


BUILDING COMMON GROUND

MAX FRANK®

Egcobox®

Thermal break technology

Product Guide

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE No. 16/5345

www.maxfrank.com

Edition Great Britain

MAX FRANK®
BUILDING COMMON GROUND

Egcobox®

Thermal break technology

Contents

At Max Frank we pride ourselves on the friendliness and technical knowledge of our staff. As part of an international group we have over half a century of experience in reinforced concrete construction technology. Our UK-based team provides full customer support – from application advice and design services through to delivery and onsite support.

Our industry-leading products and solutions include fibre concrete spacers, Pecafil®, Pecavoid®, Shearail® and many other products for concrete frame, groundworks, waterproofing and concrete durability applications. Our thermal break solution, Egcobox®, is at the heart of our Reinforcement Technology range.

- Innovation
- Quality
- UK-based
- Established international group

Egcobox®

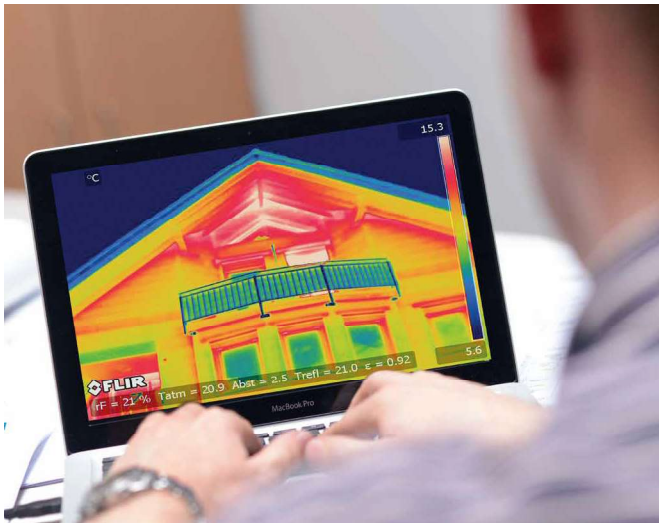
Structural integrity & thermal performance

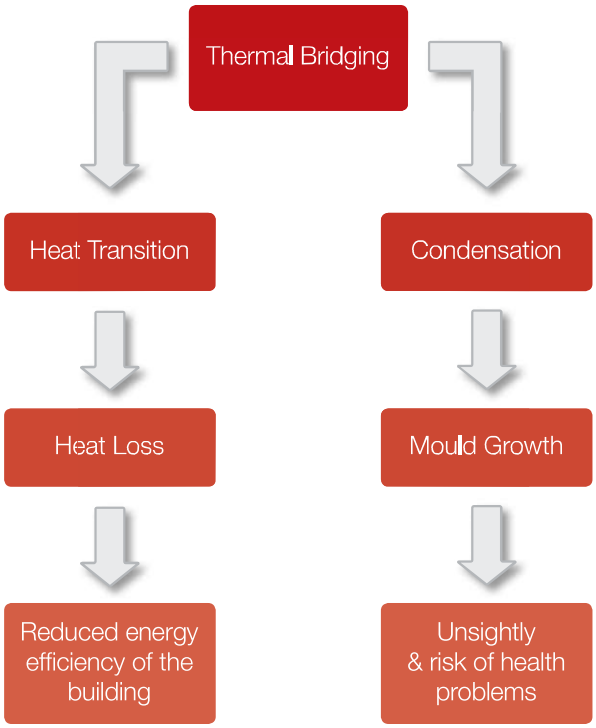
- Structural integrity ✓
- Thermal performance ✓
- Balcony design made easier ✓
- Mould ✗
- Heat loss ✗

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE No. 16/5345

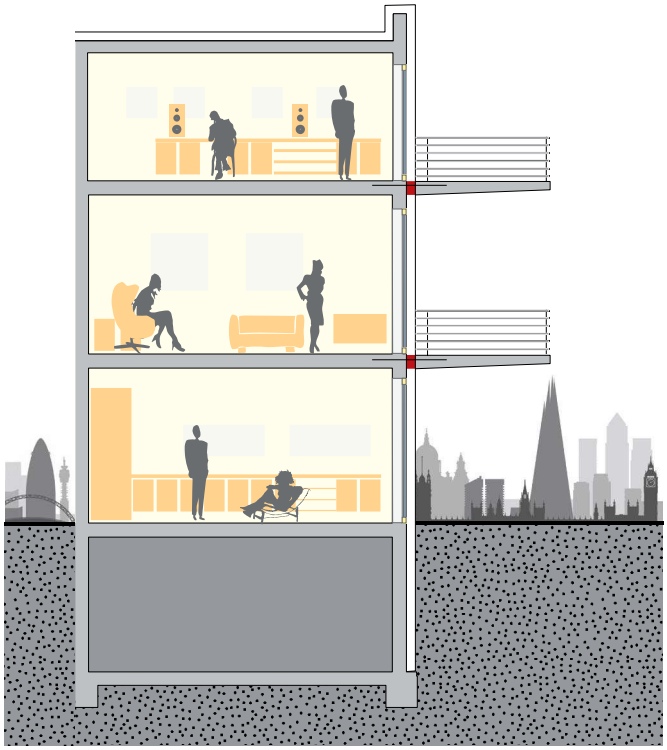
… another problem solved by Max Frank!

THE PROBLEM: Heat loss and mould





Thermal break technology



Egcobox® successfully addresses these challenges. It is an effective means to combat heat loss and minimise the risk of condensation and mould. Egcobox® thermally insulated cantilever connectors ensure structural safety while minimising thermal bridging, making it easier for Architects, Engineers and Builders to design balconies and other building members like cantilever beams, walls, parapets or even corbels that protrude through the insulated building envelope.

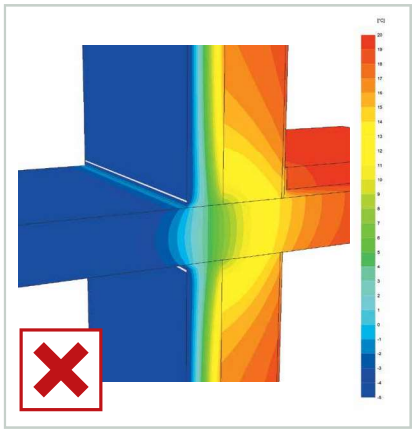
All Egcobox® thermal break elements are fully compliant with Part L of the Building Regulations.

With the free software, designing and specifying Egcobox® could not be easier and this ensures Architects may enjoy unrestricted freedom of design.

Used extensively in Europe for over 40 years, market leaders in key markets such as Germany, Sweden and Switzerland, and approved in the UK by BBA since 2009, the Egcobox® thermally insulated balcony connector from Max Frank is the solution you know you can rely on.

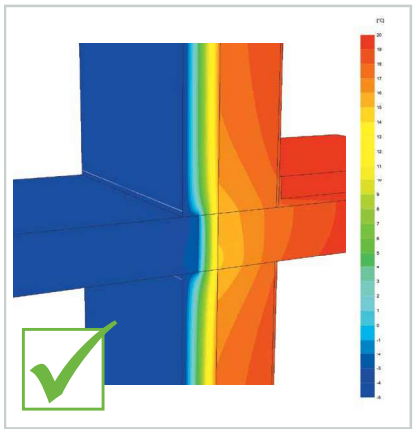
Egcobox® - The Benefits:

- The proven and safe choice.
- Minimises thermal bridges with low thermal transmittance values (Psi) and temperature factors (fRSi) well above the requirement.
- Can be customised to fit the exact project requirements.
- Supported by an experienced engineering team – on hand to provide advice and guidance.
- Free design support.
- Free calculation and dimensioning software.

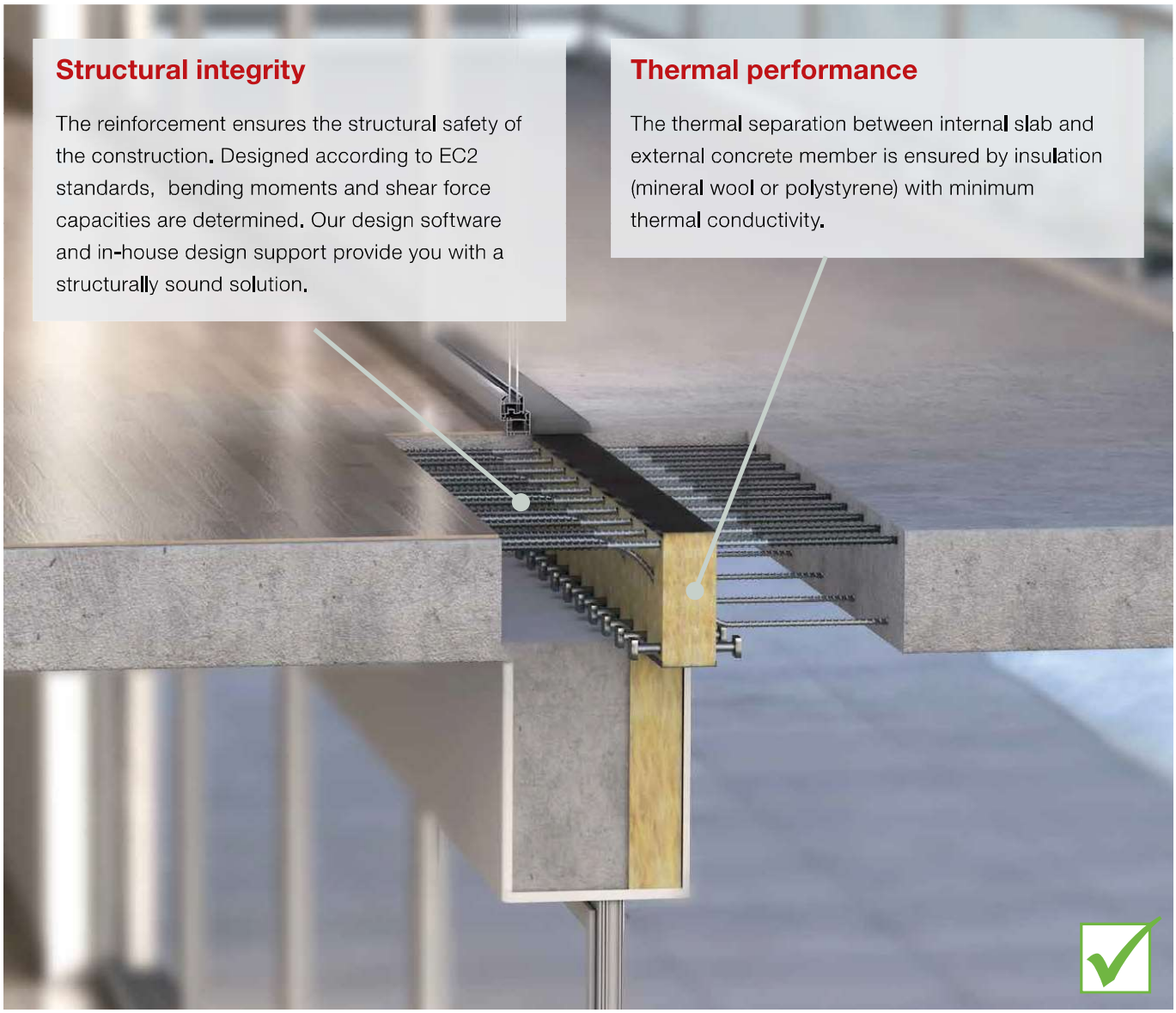


Thermal transfer without Egcobox®

Reduced thermal transfer due to the installation of Egcobox®



EGCOBOX® – how it works



Customised for your project requirements

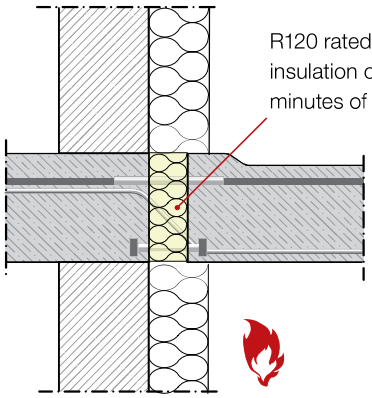
To provide the best, most cost effective and suitable solution for specific design requirements, Egcobox® has a wide range of parameters to vary:

- Insulation material: mineral wool or polystyrene
- Insulation thickness: 60-120 mm
- Length and shape: including curved units
- Concrete cover
- Alignment of: tension, shear bars and compression elements
- Fire protection: up to R120

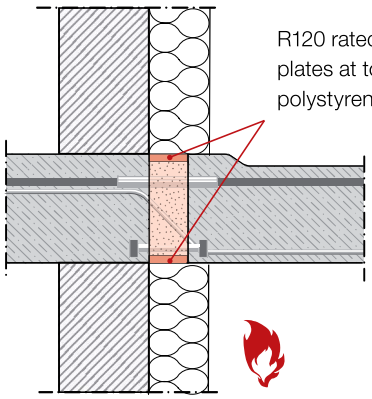
Fire protection

120 minutes fire resistance (R120) is achieved in Egcobox® either by the use of mineral wool as the insulation core or by the incorporation of top and bottom fire protection plates where polystyrene is used as the insulation core.

Egcobox® is rated to deliver fire protection up to R120 and is fully compliant with the fire protection requirements of the UK building regulations.



R120 rated - Mineral wool insulation core for up to 120 minutes of fire resistance.



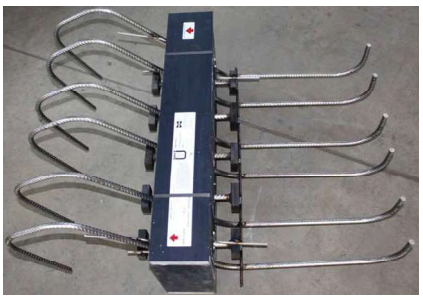
R120 rated - Fire protection plates at top and bottom of polystyrene insulation

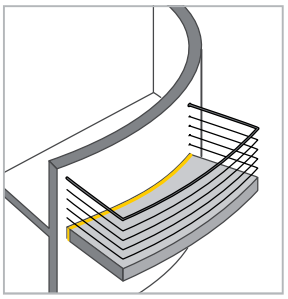
Customised elements

As cantilevers may vary due to architectural requirements, the thermal break needs to be adjusted in its geometry.

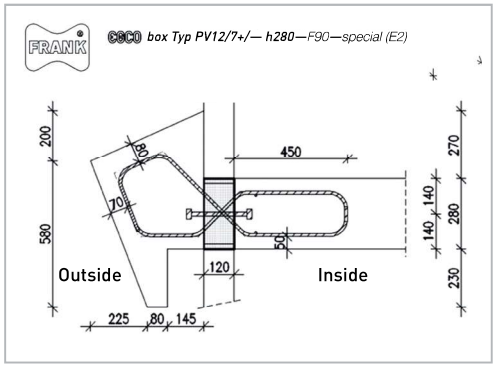
Our advanced manufacturing facilities allow us to respond to such requests with specially designed customised elements to suit your specific installation requirements.

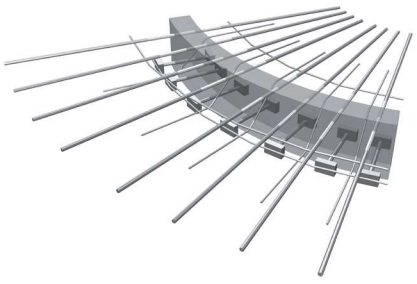
Examples of the flexibility we have in our product range result in solutions for stepped connections, round balconies or special reinforcement designs for precast and hollow core applications.



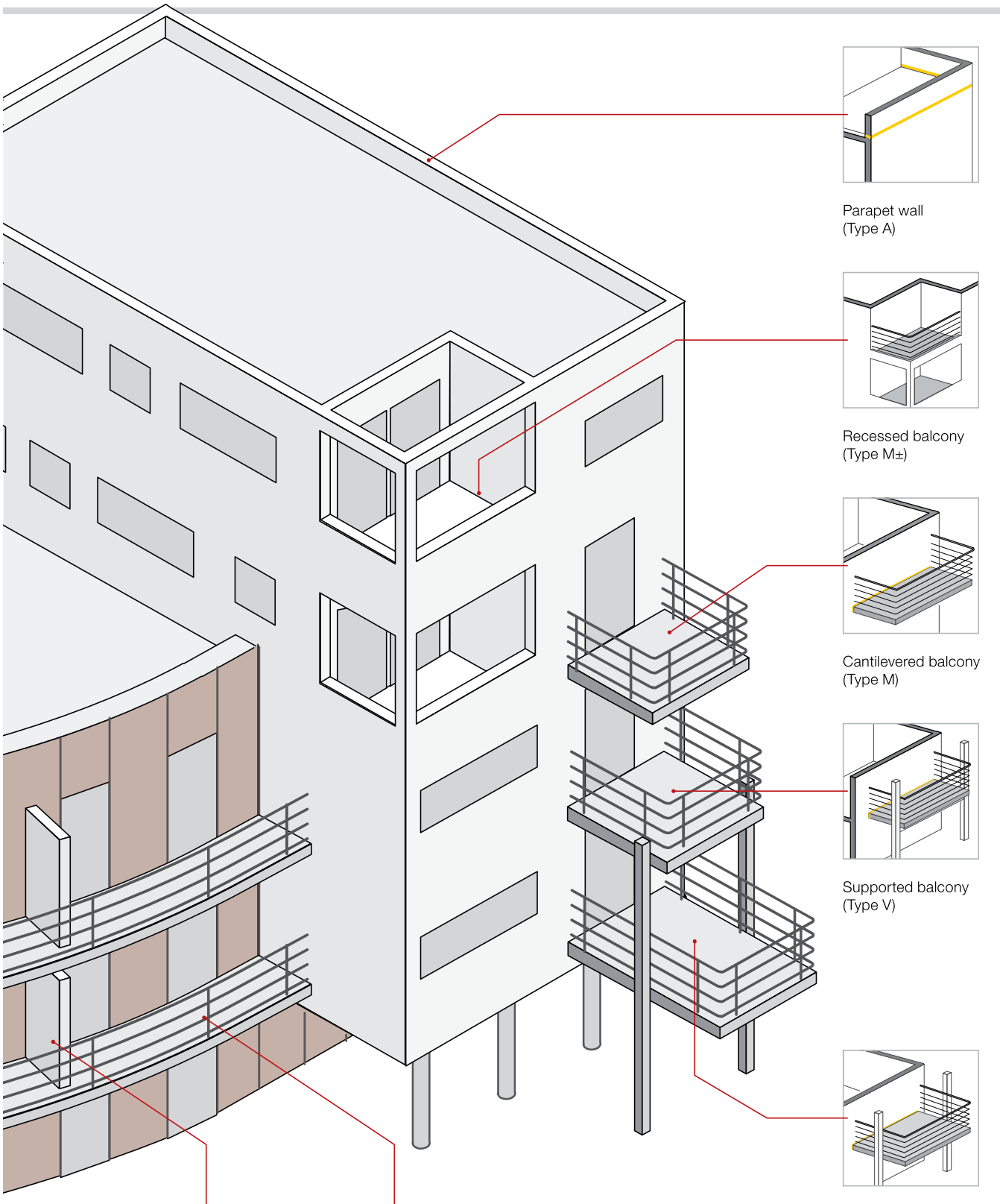


Curved balconies





Egcobox® type overview



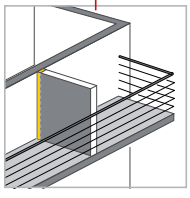
Parapet wall
(Type A)

Recessed balcony
(Type M±)

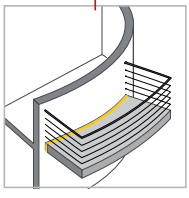
Cantilevered balcony
(Type M)

Supported balcony
(Type V)

Supported cantilevered
balcony (Type V±)

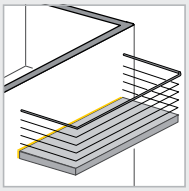


Cantilevered wall
(Type M-W)

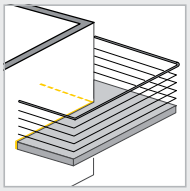


Special elements

Cantilevered balconies

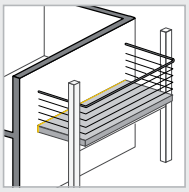


Cantilevered balcony
(Type M)

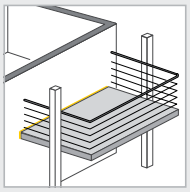


Corner balcony
(Type M-Eck)

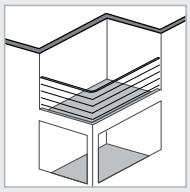
Supported balconies



Supported balcony
(Type V)

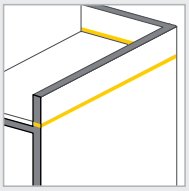


Supported cantilevered
balcony (Type V±)

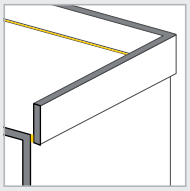


Recessed balcony
(Type M±)

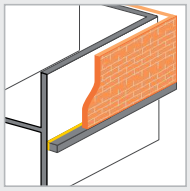
Parapet wall, corbel supports



Parapet wall
(Type A)

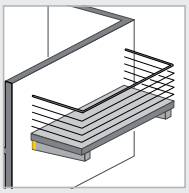


Projected parapet wall
(Type F)

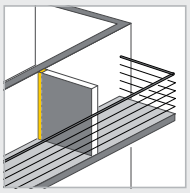


Corbel element
(Type O)

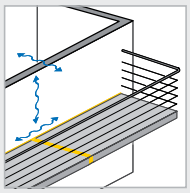
Further standard elements



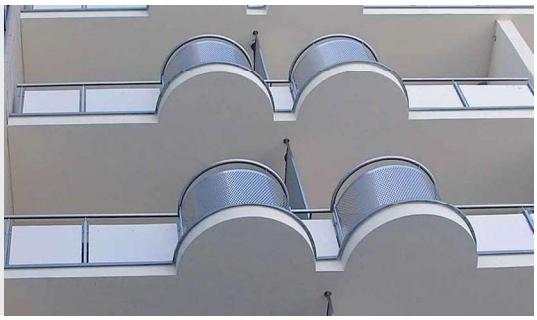
Cantilevered beam
(Type M-S)



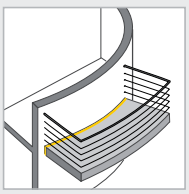
Cantilevered wall
(Type M-W)



Short elements for special
loads (Type M-VNH)

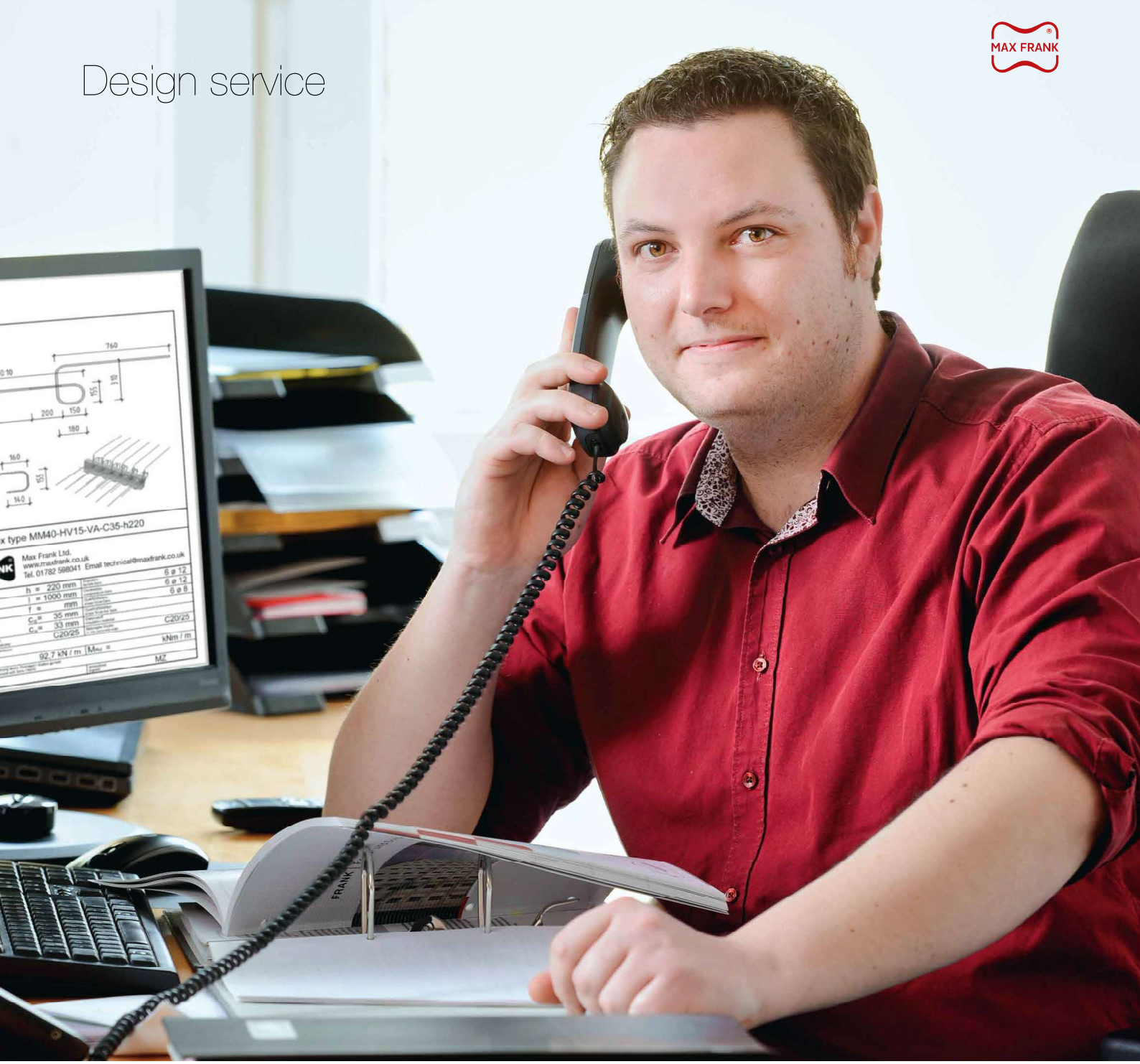


Special elements



Curved balconies

Design service



As specialists in thermal breaks, we deal with unique projects and difficult applications on a daily basis.

The strength of our Technical Services Department is to develop and design solutions together with Engineers and Clients. The engineering knowledge we have gathered over many years and the modern software we operate ensures a quick and reliable answer to your problems.

Our experienced Engineers will be pleased to generate solutions for your individual requirements.

Max Frank Technical Services Department

Tel: **+44 (0)1782 598041**

e-mail: **technical@maxfrank.co.uk**

Egcobox® software

Egcobox® is a structural element, and therefore requires appropriate structural design. The latest generation of Max Frank's Egcobox® software is a tool specifically developed to support this task.

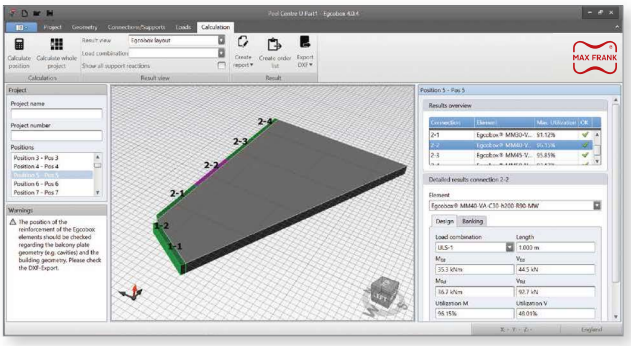
Egcobox® software, also used by our own Engineers, is easy to handle due to its graphical representation of the balcony. Various load scenarios, upstands and holes can be applied. Project information with multiple balconies can be summarised and saved in one file.

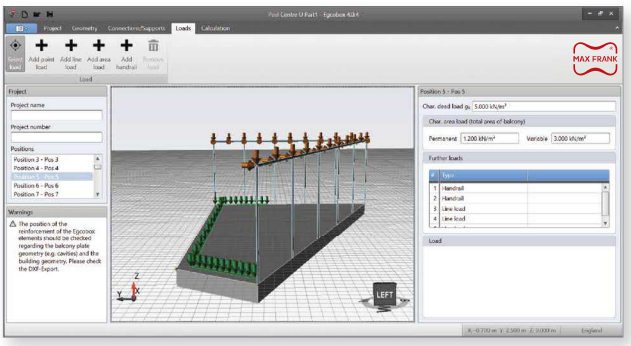
It suggests the most suitable type of Egcobox® for your application and manual changes are easy to make. The types selected are shown on a type list and in a pdf report with all relevant design information.

The software is based on the current Egcobox® technical information and design tables. These are also available in the Egcobox® 'Design Guide' a companion brochure to this publication.

Egcobox® Software – The Better Way To Design

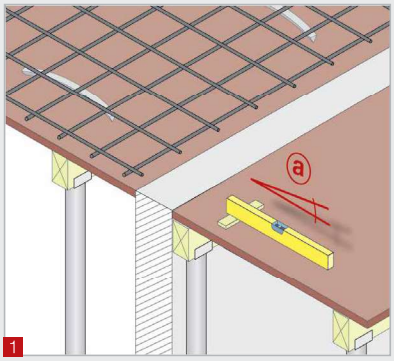
- Determines the type of Egcobox® to use for your project
- Easy, user-friendly handling
- Output of structural calculation in pdf report
- Generation of type list
- Output of a visual installation plan
- Selection of several languages
- Selection of country-specific building codes

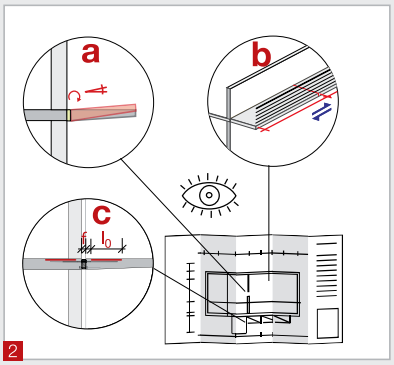


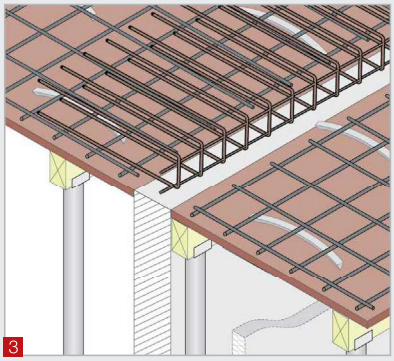


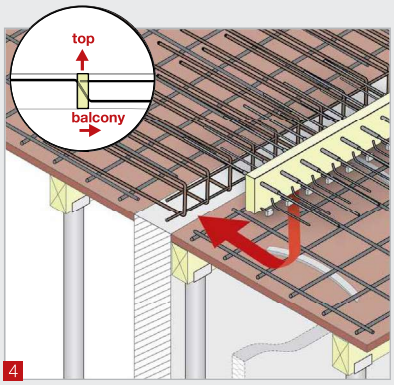
Available to download for free at
www.maxfrank.co.uk/support

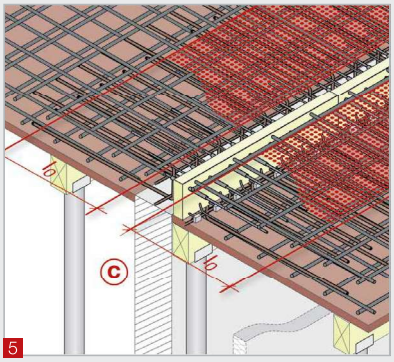
in situ concrete

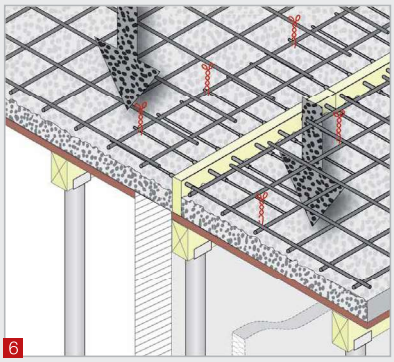




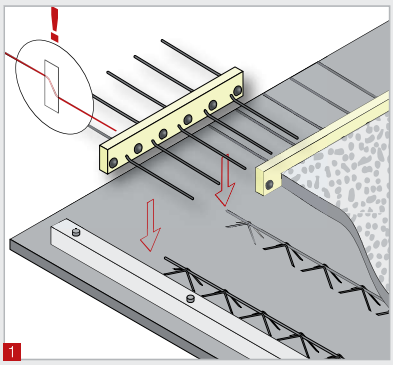


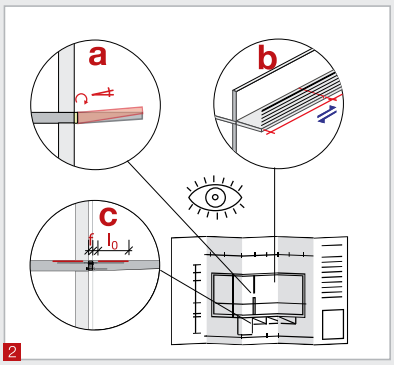


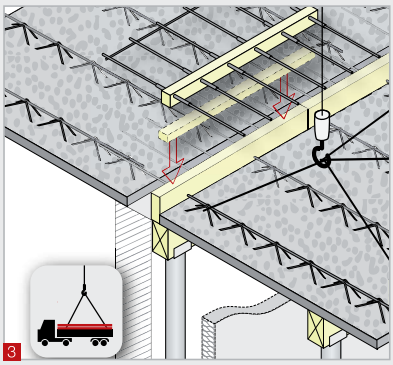


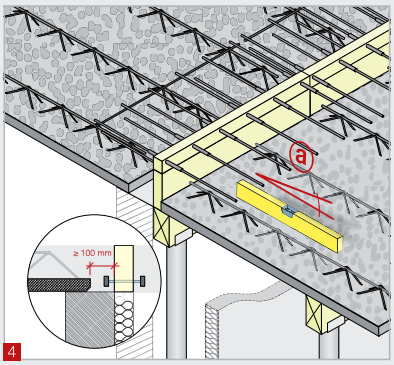


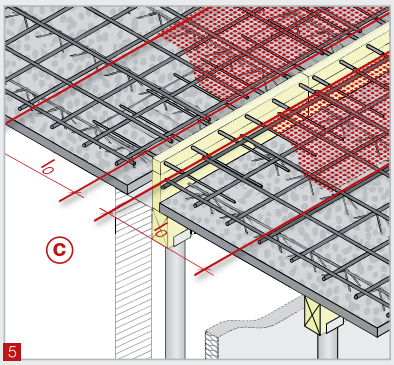
semi prefab balcony

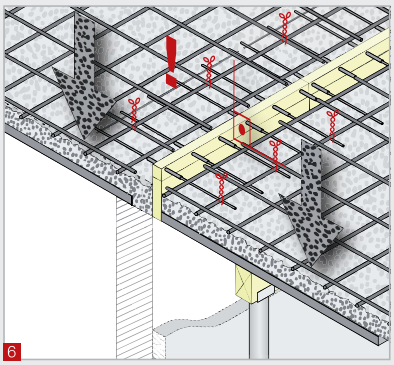












This Installation Guideline is a condensed description of factors having a direct effect on the performance of the Max Frank product and is based on the present state of the art. It may be necessary to alter these recommendations, as more information becomes available. Correct use is the responsibility of the user, if in doubt please consult the Max Frank Technical Services Department.

Efficient service & delivery

Once the design is finalised, in collaboration between Design Engineers and the Max Frank design team, we make every effort to get the product on site quickly and efficiently – meeting time and cost requirements.

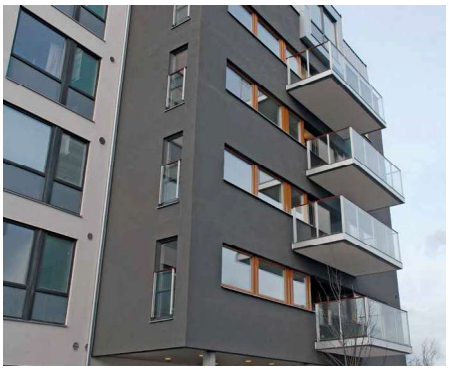
Due to the variety and flexibility in production, Egcobox® is manufactured to order and directly delivered to site. Our experienced office staff plan production and delivery according to a dedicated programme that is designed to meet your specific project schedule. This ensures, you always have the right elements on site and can work efficiently.

For any queries during the installation process, our external sales team members are quickly available to provide on site support.

Egcobox® Continuous Support - From Design To Installation

- Our office staff co-ordinate your individual delivery schedule
- Egcobox® is manufactured to meet the project-specific needs
- Delivery direct to site
- On-site support for any queries

Egcobox® projects












MAX FRANK | CPD seminar “Thermal Break Design & Technology”

In addition to this brochure, a deeper insight into the design details around thermal breaks can be obtained in our free-of-charge CPD seminar. The seminar is specifically tailored to Engineers interested in the following details:

“During the last decade the importance of balconies has increased dramatically due to the desire to enjoy a small outside environmental space. The presentation covers not only structural aspects of thermal break units and the way they work within concrete structures but also the building physics behind thermal bridging including an introduction to our latest software.”

The seminar usually lasts 45 minutes with a question and answer session at the end - longer or tailored presentations can also be provided. Attendance certificates will be issued on completion of the seminar for your professional development diary. We will be happy to cover the cost of refreshments provided during the presentation.

To arrange a seminar or to request further information, please email.

We also offer the following CPD seminars:

- Achieving Durability in Concrete Structures
- Punching Shear Reinforcement
- Ground Heave - Best Practice

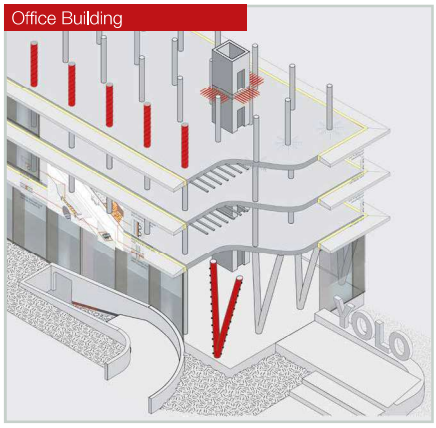
cpd@maxfrank.co.uk

Max Frank Building

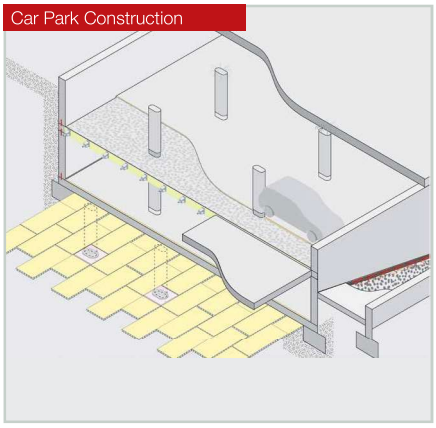
Our wide range of further products and solutions for reinforced concrete construction are shown in application in a variety of buildings.

3-Storey Building

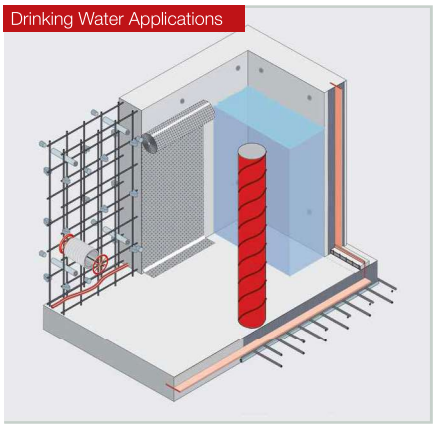
Office Building



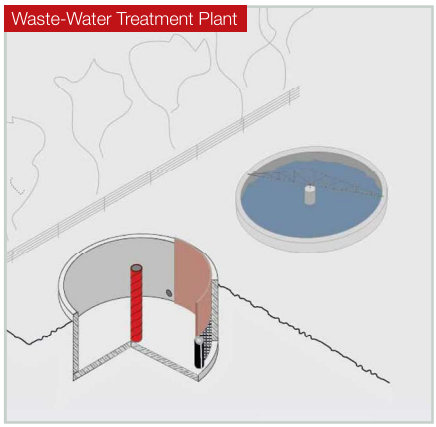
Car Park Construction



Drinking Water Applications



Waste-Water Treatment Plant



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