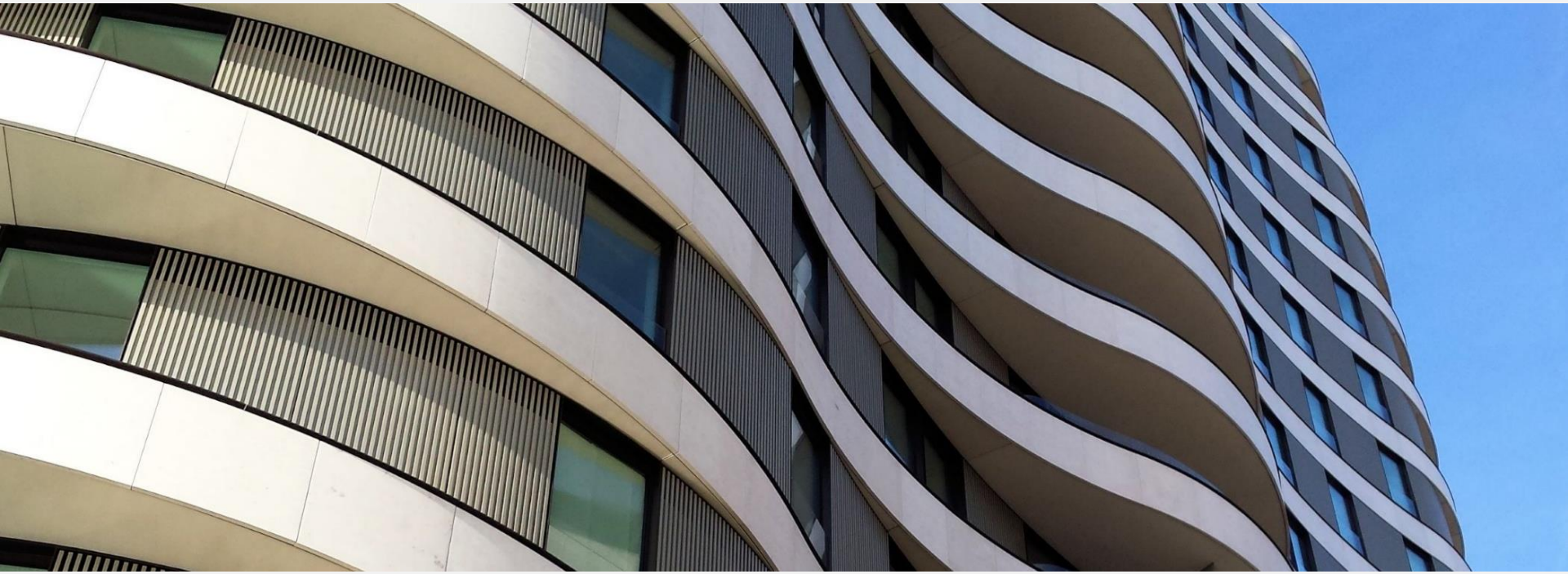
SCHÖCK 열교차단 솔루션



SCHÖCK

㈜쉐크코리아 / 대표이사 이정현
독일 PHI 패시브하우스 컨설턴트
02)416-1511 / jerry.lee@schoeck.com
www.schoeck.com

SCHÖCK 쉐크사

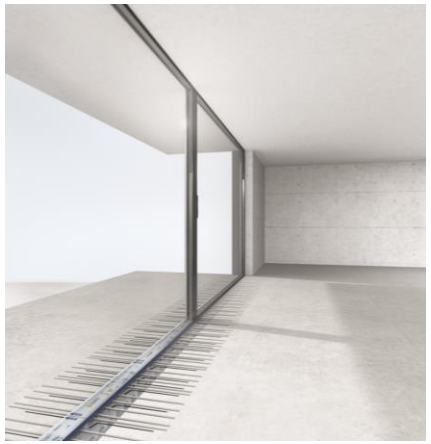
구조용 열교차단재의 글로벌 리더

- 본사 : Baden-Baden, Germany
- 지사 : 17 개국
- 세계 36개국에 제품 판매
- 생산 기지 : 독일 3, 기타 유럽 3
- 주요 제품
  - Schöck Isokorb®
  - Schöck Sconnex®
  - Schöck Rutherma®
  - Schöck Isolink®

SCHÖCK

쉐크사의 구조용 열교차단재

다양한 솔루션



Isokorb®

외단열용

Rutherma®

내단열용

Isolink®

중단열용

Sconnex®

벽체 및 기둥용

SCHÖCK

Schöck Isokorb® type K

발코니용 열교차단재

SCHÖCK

Schöck Isokorb® type A

파라펫용 열교차단재

SCHÖCK

Schöck Isokorb® type S

H빔용 열교차단재

SCHÖCK

Schöck Rutherma®

내단열용 열교차단재

SCHÖCK

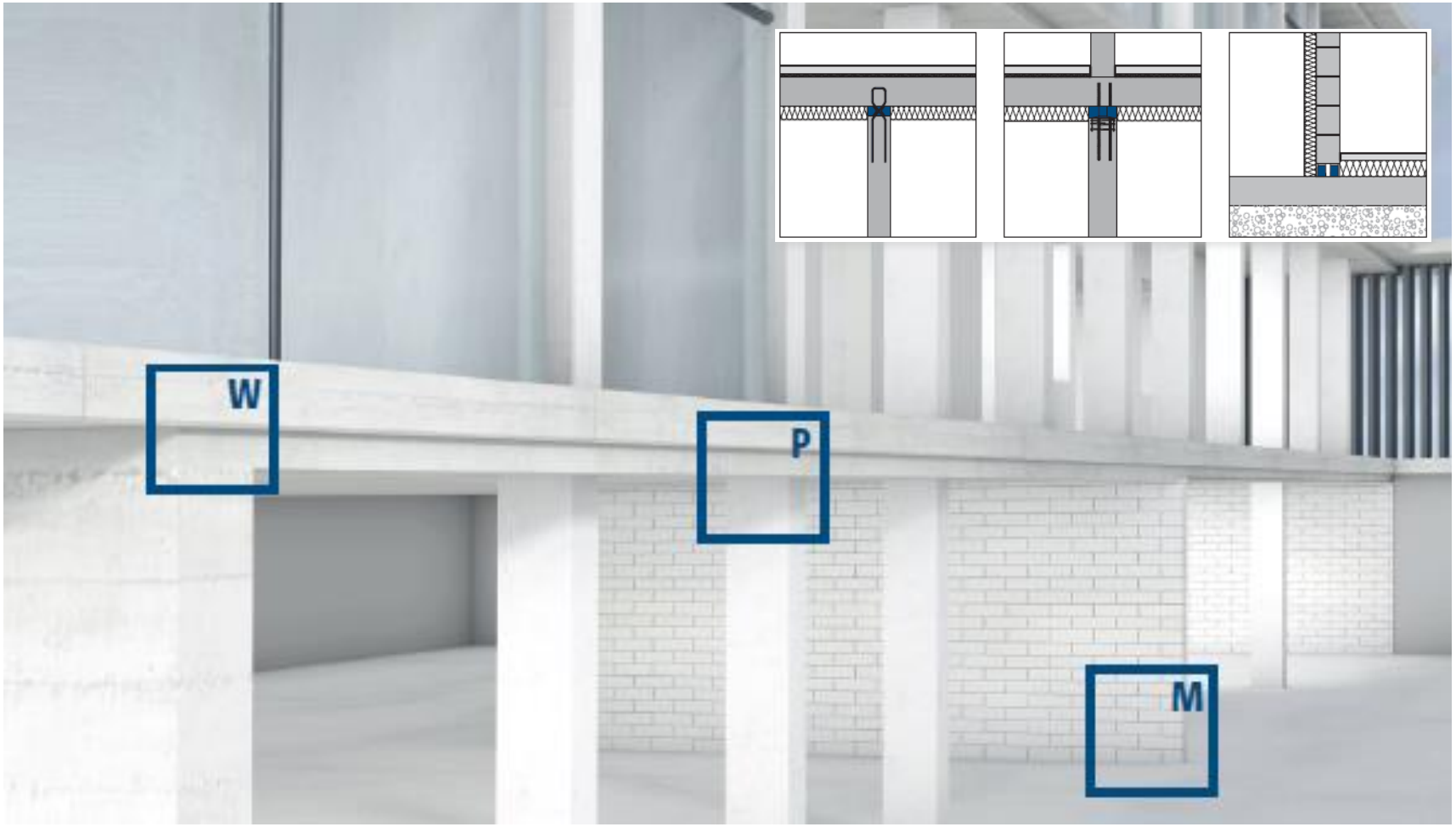
Schöck Isolink® type C

중단열용 열교차단 커넥터

SCHÖCK

Schöck Isolink®

벽체 및 기둥용 열교차단재



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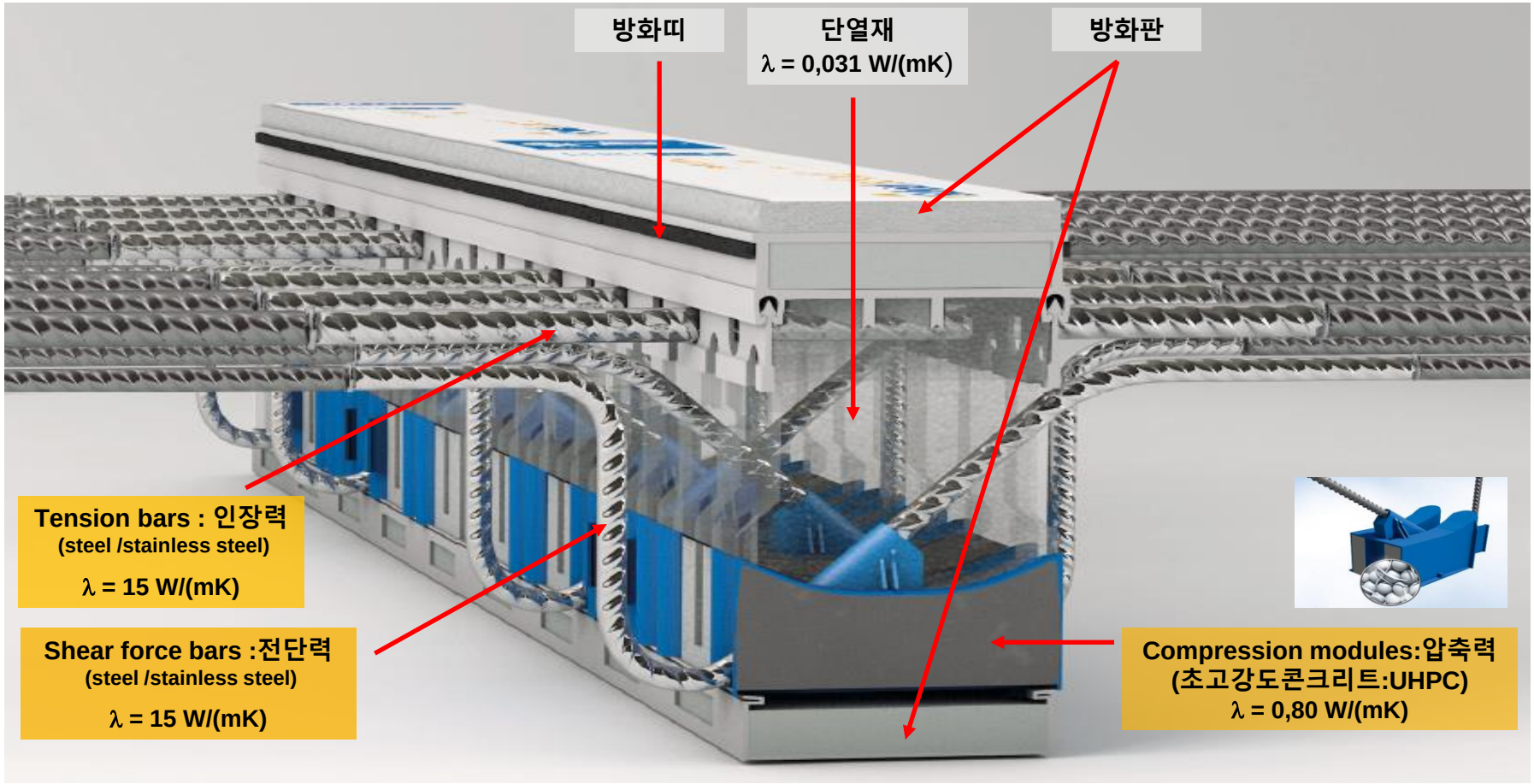
Schöck Isokorb® 구조적 성능

구조 : Isokorb® type K



SCHÖCK

Schöck Isokorb® 국제적 인증

구조적 안전성

- 독일 DIBt (Deutsches Institute fur Bautechnik)
- 영국 BBA (British Board of Agreement)
- 미국 ICC (International Code Council)

Deutsches Institut für Bautechnik DIBt

Zulassungsstelle für Bauprodukte und Bauarten
Bautechnisches Prüfamt
Eine vom Bund und den Ländern gemeinsam getragene Anstalt des öffentlichen Rechts
Mitglied der EOTA, der UEAtc und der WFTAO

Bescheid

über die Ergänzung der allgemeinen bauaufsichtlichen Zulassung/ allgemeinen Bauartgenehmigung vom 8. Januar 2020

Datum: 02.10.2020
Geschäftszeichen: I 24-1.15.7-15/20

Nummer: Z-15.7-320

Geltungsdauer vom: 2. Oktober 2020 bis: 20. April 2021

Antragsteller:
Schöck Bauteile GmbH
Vimbucher Straße 2
76534 Baden-Baden (Steinbach)

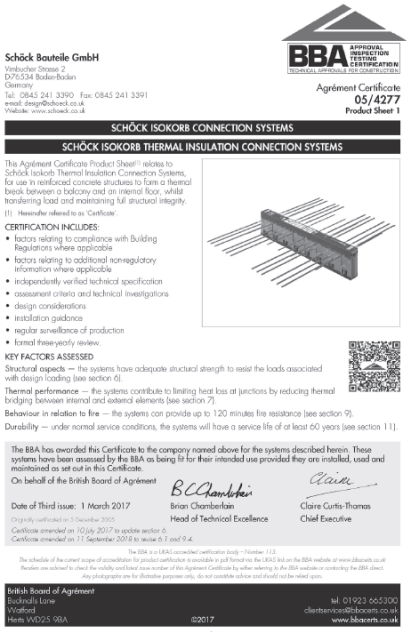
Gegenstand dieses Bescheides:
Schöck Isokorb® CXT/CT mit Betondruckplatten und Combar® Zugstab zum Anschluss von Stahlbetonplatten

Dieser Bescheid ändert und ergänzt die allgemeine bauaufsichtliche Zulassung/allgemeine Bauartgenehmigung Nr. Z-15.7-320 vom 8. Januar 2020.
Dieser Bescheid umfasst sechs Seiten und zwei Anlagen. Er gilt nur in Verbindung mit der oben genannten allgemeinen bauaufsichtlichen Zulassung/allgemeinen Bauartgenehmigung und darf nur zusammen mit dieser verwendet werden.

Elektronische Kopie der amtl. des DIBt: Z-15.7-320

DIBt

DIBt | Kolonnenstraße 30 B | D-10829 Berlin | Tel.: +49 30 78730-0 | Fax: +49 30 78730-320 | E-Mail: dibt@dibt.de | www.dibt.de



Schöck Bauteile GmbH
Vimbucher Strasse 2
D76534 Baden-Baden
Germany
Tel: 0845 241 3390 Fax: 0845 241 3391
e-mail: design@schoeck.co.uk
Website: www.schoeck.co.uk

BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
05/4277
Product Sheet 1

SCHÖCK ISOKORB CONNECTION SYSTEMS

SCHÖCK ISOKORB THERMAL INSULATION CONNECTION SYSTEMS

This Agrément Certificate Product Sheet[1] relates to Schöck Isokorb Thermal Insulation Connection Systems, for use in reinforced concrete structures to form a thermal break between a balcony and an internal floor, whilst transferring load and maintaining full structural integrity.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:
- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Structural aspects — the systems have adequate structural strength to resist the loads associated with design loading (see section 6).

Thermal performance — the systems contribute to limiting heat loss at junctions by reducing thermal bridging between internal and external elements (see section 7).

Behaviour in relation to fire — the systems can provide up to 120 minutes fire resistance (see section 9).

Durability — under normal service conditions, the systems will have a service life of at least 60 years (see section 11).

The BBA has awarded this Certificate to the company named above for the systems described herein. These systems have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 1 March 2017
Brian Chamberlain, Head of Technical Excellence
Claire Curtis-Thomas, Chief Executive

Originally certificated on 5 December 2005
Certificate amended on 10 July 2017 to update section 0.
Certificate amended on 11 September 2018 to revise 6.1 and 9.4.

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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Herts WD25 9BA
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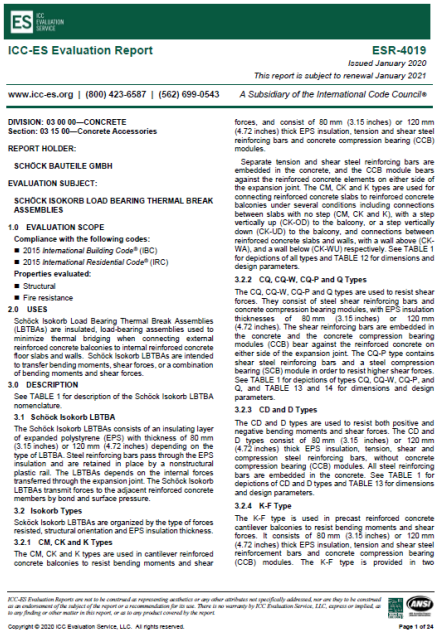
www.bbacerts.co.uk



ES ICC EVALUATION SERVICE

ICC-ES Evaluation Report

ESR-4019
Issued January 2020
This report is subject to renewal January 2021

www.icc-es.org | (800) 423-6587 | (562) 699-0543 — A Subsidiary of the International Code Council®

DIVISION: 03 00 00—CONCRETE
Section: 03 15 00—Concrete Accessories

REPORT HOLDER:

SCHÖCK BAUTEILE GMBH

EVALUATION SUBJECT:

SCHÖCK ISOKORB LOAD BEARING THERMAL BREAK ASSEMBLIES

1.0 EVALUATION SCOPE

Compliance with the following codes:
- 2015 International Building Code® (IBC)
- 2015 International Residential Code® (IRC)

Properties evaluated:
- Structural
- Fire resistance

2.0 USES

Schöck Isokorb Load Bearing Thermal Break Assemblies (LBTBAs) are insulated, load-bearing assemblies used to minimize thermal bridging when connecting external reinforced concrete balconies to internal reinforced concrete floor slabs and walls. Schöck Isokorb LBTBAs are intended to transfer bending moments, shear forces, or a combination of bending moments and shear forces.

3.0 DESCRIPTION

See TABLE 1 for description of the Schöck Isokorb LBTBA nomenclature.

3.1 Schöck Isokorb LBTBA

The Schöck Isokorb LBTBAs consists of an insulating layer of expanded polystyrene (EPS) with thickness of 80 mm (3.15 inches) or 120 mm (4.72 inches) depending on the type of LBTBA. Steel reinforcing bars pass through the EPS insulation and are retained in place by a nonstructural plastic rail. The LBTBAs depends on the internal forces transferred through the expansion joint. The Schöck Isokorb LBTBAs transmit forces to the adjacent reinforced concrete members by bond and surface pressure.

3.2 Isokorb Types

Schöck Isokorb LBTBAs are organized by the type of forces resisted, structural orientation and EPS insulation thickness.

3.2.1 CM, CK and K Types

The CM, CK and K types are used in cantilever reinforced concrete balconies to resist bending moments and shear forces, and consist of 80 mm (3.15 inches) or 120 mm (4.72 inches) thick EPS insulation, tension and shear steel reinforcing bars and concrete compression bearing (CCB) modules.

Separate tension and shear steel reinforcing bars are embedded in the concrete, and the CCB module bears against the reinforced concrete elements on either side of the expansion joint. The CM, CK and K types are used for connecting reinforced concrete slabs to reinforced concrete balconies under several conditions including connections between slabs with no step (CM, CK and K), with a step vertically up (CK-OD) to the balcony, or a step vertically down (CK-UD) to the balcony, and connections between reinforced concrete slabs and walls, with a wall above (CK-WA), and a wall below (CK-WU) respectively. See TABLE 1 for depictions of all types and TABLE 12 for dimensions and design parameters.

3.2.2 CQ, CQ-W, CQ-P and Q Types

The CQ, CQ-W, CQ-P and Q types are used to resist shear forces. They consist of steel shear reinforcing bars and concrete compression bearing modules, with EPS insulation thicknesses of 80 mm (3.15 inches) or 120 mm (4.72 inches). The shear reinforcing bars are embedded in the concrete and the concrete compression bearing modules (CCB) bear against the reinforced concrete on either side of the expansion joint. The CQ-P type contains shear steel reinforcing bars and a steel compression bearing (SCB) module in order to resist higher shear forces. See TABLE 1 for depictions of types CQ, CQ-W, CQ-P, and Q, and TABLE 13 and 14 for dimensions and design parameters.

3.2.3 CD and D Types

The CD and D types are used to resist both positive and negative bending moments and shear forces. The CD and D types consist of 80 mm (3.15 inches) or 120 mm (4.72 inches) thick EPS insulation, tension, shear and compression steel reinforcing bars, without concrete compression bearing (CCB) modules. All steel reinforcing bars are embedded in the concrete. See TABLE 1 for depictions of CD and D types and TABLE 13 for dimensions and design parameters.

3.2.4 K-F Type

The K-F type is used in precast reinforced concrete cantilever balconies to resist bending moments and shear forces. It consists of 80 mm (3.15 inches) or 120 mm (4.72 inches) thick EPS insulation, tension and shear steel reinforcement bars and concrete compression bearing (CCB) modules. The K-F type is provided in two

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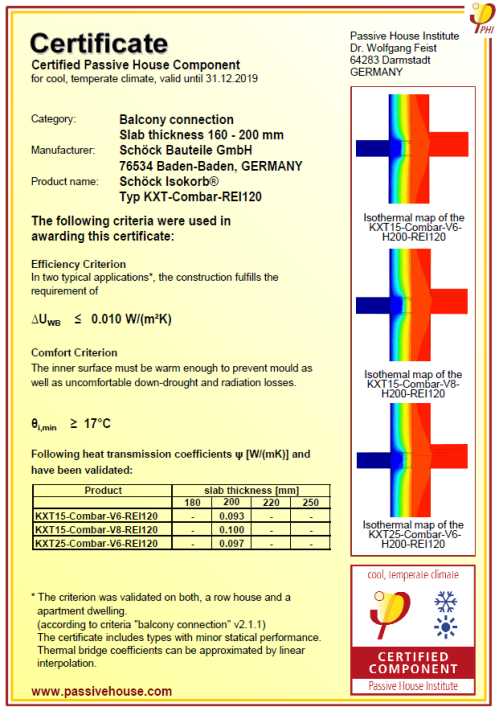
Schöck Isokorb® 국제적 인증

열적 성능, 친환경

- 독일 패시브하우스 연구소 (Passive House Institute)
- LEED (Leadership in Energy and Environmental Design)
- EPD (Environmental Product Declaration)



Certificate
Certified Passive House Component
for cool, temperate climate, valid until 31.12.2019

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Balcony connection**
Slab thickness 160 - 200 mm
Manufacturer: **Schöck Bauteile GmbH**
76534 Baden-Baden, GERMANY
Product name: **Schöck Isokorb®**
Typ KXT-Combar-REI120

The following criteria were used in awarding this certificate:

Efficiency Criterion
In two typical applications*, the construction fulfills the requirement of

$\Delta U_{WB} \leq 0.010$ W/(m²K)

Comfort Criterion
The inner surface must be warm enough to prevent mould as well as uncomfortable down-drought and radiation losses.

$\theta_{i,min} \geq 17°C$

Following heat transmission coefficients ψ [W/(mK)] and have been validated:

Product	slab thickness [mm]			
	180	200	220	250
KXT15-Combar-V6-REI120	-	0.093	-	-
KXT15-Combar-V8-REI120	-	0.100	-	-
KXT25-Combar-V6-REI120	-	0.097	-	-

Isothermal map of the KXT15-Combar-V6-H200-REI120

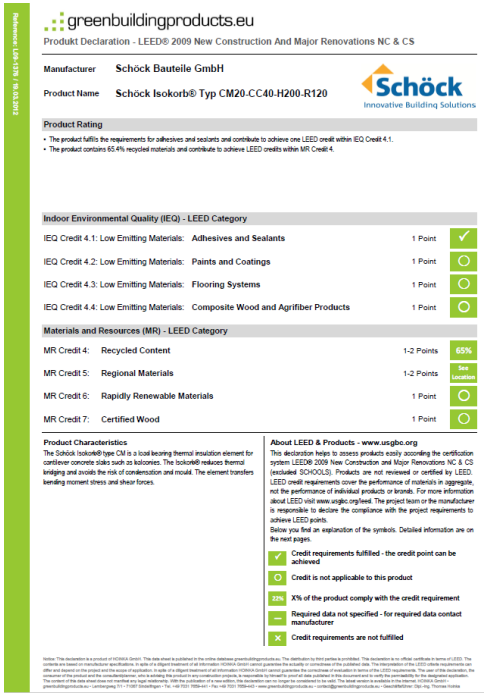
Isothemal map of the KXT15-Combar-V8-H200-REI120

Isothermal map of the KXT25-Combar-V6-H200-REI120

* The criterion was validated on both, a row house and a apartment dwelling.
(according to criteria "balcony connection" v2.1.1)
The certificate includes types with minor statical performance.
Thermal bridge coefficients can be approximated by linear interpolation.

cool, temperate climate
CERTIFIED COMPONENT
Passive House Institute

www.passivehouse.com



greenbuildingproducts.eu
Produkt Declaration - LEED® 2009 New Construction And Major Renovations NC & CS

Manufacturer: Schöck Bauteile GmbH
Product Name: Schöck Isokorb® Typ CM20-CC40-H200-R120

Schöck Innovative Building Solutions

Product Rating
- The product fulfills the requirements for adhesives and sealants and contribute to achieve one LEED credit within IEQ Credit 4.1.
- The product contains 65.4% recycled materials and contribute to achieve LEED credits within MR Credit 4.

Indoor Environmental Quality (IEQ) - LEED Category

IEQ Credit 4.1: Low Emitting Materials:	Adhesives and Sealants	1 Point	✓
IEQ Credit 4.2: Low Emitting Materials:	Paints and Coatings	1 Point	○
IEQ Credit 4.3: Low Emitting Materials:	Flooring Systems	1 Point	○
IEQ Credit 4.4: Low Emitting Materials:	Composite Wood and Agrifiber Products	1 Point	○

Materials and Resources (MR) - LEED Category

MR Credit 4:	Recycled Content	1-2 Points	65%
MR Credit 5:	Regional Materials	1-2 Points	See Location
MR Credit 6:	Rapidly Renewable Materials	1 Point	○
MR Credit 7:	Certified Wood	1 Point	○

Product Characteristics
The Schöck Isokorb® type CM is a load bearing thermal insulation element for cantilever concrete slabs such as balconies. The Isokorb® reduces thermal bridging and avoids the risk of condensation and mould. The element transfers bending moment stress and shear forces.

About LEED & Products - www.usgbc.org
This declaration helps to assess products easily according the certification system LEED® 2009 New Construction and Major Renovations NC & CS (excluded SCHOOLS). Products are not reviewed or certified by LEED. LEED credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands. For more information about LEED visit www.usgbc.org/leed. The project team or the manufacturer is responsible to declare the compliance with the project requirements to achieve LEED points.
Below you find an explanation of the symbols. Detailed information are on the next pages.

- ✓ Credit requirements fulfilled - the credit point can be achieved
- ○ Credit is not applicable to this product
- 22% X% of the product comply with the credit requirement
- — Required data not specified - for required data contact manufacturer
- ✕ Credit requirements are not fulfilled

UMWELT-PRODUKTDEKLARATION
nach /ISO 14025/ und /EN 15804/

Deklarationsinhaber	Schöck Bauteile GmbH
Herausgeber	Institut Bauen und Umwelt e.V. (IBU)
Programmhalter	Institut Bauen und Umwelt e.V. (IBU)
Deklarationsnummer	EPD-SBG-20180158-IBC1-DE
Ausstellungsdatum	28.01.2019
Gültig bis	27.01.2024

Schöck Isokorb® (X)T Typ K
Schöck Bauteile GmbH

Institut Bauen und Umwelt e.V.

www.ibu-epd.com / https://epd-online.com

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