ADVANCED CURTAIN WALL TECHNIQUE
- STONE TECHNIQUE -
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Library
Guangzhou / China
Library
Guangzhou / China

Companies
- Investor: Guangzhou Municipal Bureau of Culture
- Architect: Nikken Sekkei LTD(JP)&GuangZhou Design Institute(CN)
- Façade consultant: ShenZhen Xinshan Curtain Wall Technology Consultation LTD.CO.,
- Façade contractor: ShenZhen Keyuan Group

Object data
- Façade type: rainscreen cladding or unitized façade
- Building height: 60m
- Area: 25000m²
- Construction end: September 2010
Library
Guangzhou / China

Details / Specials

- Panel material: Shandong White granite
- Panel size: 1400 × 400 × 30mm
- Panel thickness: 30mm
- Joints: open
- Anchors: 100,000pcs FZP 11*15M618A4
- Special note: Large amount of stone ceiling
Opera House
Guangzhou / China
Opera House
Guangzhou / China

Companies
- Investor: Guangzhou Municipal Government
- Architect: Zaha. Hadid Architects (UK)
- Façade consultant: KGE Engineering (Zhuhai, China)
- Façade contractor: KGE Engineering (Zhuhai, China)

Object data
- Façade type: rainscreen cladding or unitized façade
- Building height: 40m
- Area: 22000m²
- Construction end: March 2009
Opera House
Guangzhou / China

Details / Specials
- Panel material: Ice blue granite
- Panel size: 1000 × 900 × 30mm
- Panel thickness: 30mm
- Joints: closed
- Anchors: 230,000 pcs FZP 11×15M618A4
- Subframe: Aluminium
- Special note: Lots of shaped stone surfaces
Guo Hai Plaza
Beijing / China
Guo Hai Plaza
Beijing / China

Companies

- Investor: DESEA GROUP
- Architect: Beijing Institute Of Architectural Design
- Façade planning: NO
- Façade manufacturer: CNYD, Shenyang;
  Maohua Decoration Engineering Co.Ltd, Shenzhen;
  Honghengji Decoration Engineering Co.Ltd, Beijing;

Object data

- Height: 30 m
- Façade area: 40,000 m²
- Time of façade construction:
  Mid Dec 2008 until Mid Nov 2009
Guo Hai Plaza
Beijing / China

Details / Specials

- Façade material:
  Granite (Mongolia Black, Shandong Bianco Tapaid), China
  Panel size: 1100 x 700 x 25mm
- Anchor and machines:
  300,000 pcs. FZP 11x15 M6/18 A4
- Special note: Opening System
  (1st floor~4th floor);
Pudong Library
Shanghai / China
Pudong Library
Shanghai / China

Companies

- Investor: Shanghai Pudong Government
- Architect: East China Architecture Design &
  Research Institute Co., Ltd
- Façade consultant: No
- Façade contractor: Shenyang YUANDA Aluminium
  Industry Engineering Co., Ltd

Object data

- Façade type: unitized facade
- Building height: 36m
- Area: 60885 m²
- Construction end: 2009
Pudong Library
Shanghai / China

Details / Specials

- Panel material: Granite
- Panel size: 800mmx600mm
- Panel thickness: 30mm
- Joints: closed
- Anchors: FZP 11x15 M6/18A4
- Subframe: Steel
Raiffeisenbank
Bad Zurzach / Switzerland
Raiffeisenbank
Bad Zurzach / Switzerland

Companies

- Investor: Raiffeisenbank Aare-Rhein
- Architect: metron Architekturbüro AG
- Pre-Design: IBT GmbH, Deutschland
- Statics: A. Niederegger, Dipl. Bauingenieur ETH/HTL/SIA
- Supplier of stone: Neumeyer und Brigl, Deutschland
- Installer of stone: K&K Fassaden AG
- Service and consulting: SFS unimarket AG

Object data

- Façade area: 985 m²
- Roof area: 357 m²
- Time of façade construction:
  January 2009 bis December 2009
Raiffeisenbank
Bad Zurzach / Switzerland

Details / Specials

- Façade material: Jura Rahmweiß
  (Façade 3cm, roof pitch 4cm with 33° resp. 45°)
- Panel size: 750 x 390-1200 x 30mm
- fischer AL-bracket system on wooden framework
- Passiv house standard
Park Inn Hotel
Stockholm Hammarby Sjöstad / Sweden
Park Inn Hotel
Stockholm Hammarby Sjöstad / Sweden

Companies
- Investor: Botrygg AB
- Façade planning: Omniplan
- Façade manufacturer: Botrygg AB

Object data
- Height: 52 m
- Façade area: 2,700 m²
- Time of façade construction: January 2009 until December 2009
Park Inn Hotel
Stockholm Hammarby Sjöstad / Sweden

Details / Specials

- Façade material: Serpentino Verde
  Panel size: 750 x 390-1200 x 30mm
  16 different sizes
Congress Hall
Tashkent / Uzbekistan
Congress Hall
Tashkent / Uzbekistan

Companies
- Investor: Zeromax GmbH, Zug (CH)
- Façade planning: Werner Sobek, Stuttgart (D)
- Façade manufacturer: BWM, Stuttgart (D)

Object data
- Height: 30 m
- Façade area: 10,000 m²
- Time of façade construction:
  Mid May until 15th of August 2009
Congress Hall
Tashkent / Uzbekistan

Details / Specials

- Façade material: Thassos Marble, GR
  Panel size: 1100 x 940 x 40mm
- Anchor and machines:
  71,000 pcs. FZP 13x24 M8 A4
  62,000 pcs. FZP 13x20 M8 A4
  10,000 pcs. FZA 18x100 M12 D/20 A4
  13 pcs. SBN 502, drilling machines
  9 pcs. ASV 80 N/K, setting table
  5 pcs. SGB, automatic setting tool

- Specials:
  Fixing of ornaments
  Pillar rings
  Earthquake protection with FZA anchors
101 Warren Street
New York / USA
101 Warren Street
New York / USA

Companies
- Investor: EJM Edward J. Minskoff Equities, Inc., USA
- Stone contractor: JMS Neumeyer & Brigel, D
- Facade consultant: SOM, USA
- Facade contractor: Antamex, CND
- fischer importer: Probe, USA

Object data
- Building height: 182 m
- Floors: 60
- Area: 13.000 m²
- Construction end: 2008/2009
101 Warren Street
New York / USA

Details / Specials

- Panel material: N&B Jura Limestone
- Anchors: 120,000 Stück FZP 13x21 M8W/22A4
- Special notes: prefabricated elements from Canada.

Hung in with a tower crane. Advantage of this assembling mode: optimized production of the elements and low place requirement on site.
Menai Shopping Center
North Wales / Great Britain
Menai Shopping Center
North Wales / Great Britain

Companies
- Investor: Cathco
- Architect: Leach Rhodes Walker
- Facade contractor: Cerrig

Object data
- Facade type: rainscreen cladding
- Building height: 9 m
- Area: 900 m²
- Construction end: March 2008
Menai Shopping Centre
North Wales / Great Britain

Details / Specials

- Panel material: Welsh Slate
- Panel size: 500 x 300 mm
- Panel thickness: 30 mm
- Joints: open
- Anchors: FZP 13 x 24 M8/6kt/14AL
- Subframe: VP 150 x 50, PH 133
- Special notes: Curved area
Nano Science Project
Bristol / Great Britain
Nano Science Project
Bristol / Great Britain

Companies

- Investor: Bristol University
- Architect: Capita Percy Thomas.
- Facade consultant: L.S.C.
- Facade contractor: L.S.C.

Object data

- Facade type: rainscreen cladding
- Building height: 14.5 m
- Area: 200 m²
- Construction end: May 2008
Nano Science Project
Bristol / Great Britain

Details / Specials

- Panel material: Limestone
- Panel size: 1040 x 600 mm / 1750 x 600 mm
- Panel thickness: 30 mm
- Joints: open
- Anchors: 13x26 M8W/6kt/17AL
- Subframe: VP 80x50, PH 93, curved horizontal profile
- Special notes: curved area
133 Houndsditch
London / Great Britain
133 Houndsditch
London / Great Britain

Companies
- Investor: HGI
- Architect: Swanke Hayden Connell
- Facade consultant: Harrison Goldman
- Facade contractor: Classic Formay

Object data
- Facade type: rainscreen cladding
- Building height: 26,5 m
- Area: 400 m²
- Construction end: June 2008
133 Houndsditch
London / Great Britain

Details / Specials

- Panel material: Burlington Slate
- Panel size: Various
- Panel thickness: 30 mm
- Joints: open
- Anchors: FZP 13x24 M8/6kt/14AL
- Subframe: VP 50, PH 68
- Special notes: 80° inclined cladding, different plain of layers
Silverburn Shopping Centre
Glasgow / Great Britain
Silverburn Shopping Centre
Glasgow / Great Britain

Companies
- Investor: Retailed Property Holdings
- Architect: BDP
- Facade contractor: Watson Stonecraft

Object data
- Facade type: rainscreen cladding
- Building height: 11 m
- Area: 1.200 m²
- Construction end: June 2007
Silverburn Shopping Centre
Glasgow / Great Britain

Details / Specials

- Panel material: Samba Gold Granite
- Panel size: 1120 x 695 mm
- Panel thickness: 40 mm
- Joints: open
- Anchors: FZP 13 x 24 M8/6kt/14AL
- Subframe: VP 180 x 50, PH 93
- Special notes: curved area
Prayersroom The Home Of FIFA
Zürich / Switzerland
Prayersroom The Home Of FIFA
Zürich / Switzerland

Participating companies

- Builder: FIFA
- Architect: Tilla Theus und Partner AG, Zürich
- Statics: Emmer Pfenniger Partner AG, Münchenstein
- Steel building: Delfosse AG, Brugg
- Natural stone: Lorenzi AG, Oberhasli
- Implementation planning: Luchsinger & Partner GmbH, Quarten
- Production glass: Glas Trösch
- Anchorage natural stone: fischer FZP 13x26 M8/6kt/17
- Anchorage glass: fischer FZP 15x17,5 M8/16 G

Object data

- Approx. 63 m² overhead glazing (suspended glass ceiling)
- Approx. 280 m² wall cladding natural stone (ONIX)
Prayersroom The Home Of FIFA
Zürich / Switzerland

Details / Specials

- **Wall cladding**
  - Parallelogram and trapezoid natural stone
  - 4 piece FZP 13x26 M8/6kl/17 per panel
  - Fixed on steel angles

- **Overhead glazing**
  - Laminated safety glass 12/10 mm, EUROWHITE
  - 4 piece FZP 15x17,5 M8/16 G per panel
  - fixed on steel angles
  - natural stone disposed on laminated safety glass
Prayersroom The Home Of FIFA
Zürich / Switzerland

Details / Specials

- Wall cladding

- Overhead glazing
Kühne + Nagel KG
Hamburg / Germany
Kühne + Nagel KG
Hamburg / Germany

Participating companies
- Builder: Kühne + Nagel (AG & Co.) KG
- Architect: Jan Störmer Partner
- Implementation planning: PSP Architekten Ingenieure
- Statics: Ingenieurbüro Dr. Binnewies
- Planning of the facade: PBI Entwicklung innovativer Fassaden GmbH
- General contractor: Köster AG
- Installation: Haskamp GmbH & Co. KG

Object data
- Administration building HafenCity Hamburg
- 5,500 m²
Kühne + Nagel KG
Hamburg / Germany

Details / Specials

- Prefabricated wall elements
  (also rolling elements)
- Soft stone (lacustrine limestone)
- Undercut anchor assembled on site
- FZP 13x26 M8W/ES4 AL
- Clevis-subframe system
  (keyhole-principle)
Morgan State University (MSU) Library
Baltimore / USA
Morgan State University (MSU) Library
Baltimore / USA

Participating companies

- Architect of Record: Design Collective
- Contractor: Hess Construction Co.
- Masonry Subcontractor: Baltimore Masonry
- Stone Supplier: Walker Zanger
- Curtainwall System Supplier: Probe Facade System Inc.

Object data

- Library of Morgan State University
- 30,000 sqf
Morgan State University (MSU) Library
Baltimore / USA

Details / Specials

- series of repeating modules, each 7' 8" x 12',
  made of 19 stones, each module has the same
  sized stones in the same place
- Panel material: Woodbridge Quarzit
- Panel size: 30" tall, 18"-30" widths, 1 ¼" thick
- Products: FZP 11x21 M6/6kt/9 AL, FAZ 10/10 A4,
  FUR 10x80 FUS A4
- Bended subframe SystemOne, radius 4 m
- Special bracket BSL 100/40
Guangzhou Developing Building
Guangzhou / China
Guangzhou Developing Building
Guangzhou / China

Companies

- Investor: Bank of Communication
- Architect: von Gerkan, Marg und Partner Architekten
- Facade contractor: Yuan Da Enterprise Group

Object data

- Facade type: sandstone
- Building height: 150m
- Area: 40,000 m²
- Construction end: 2006
Guangzhou Developing Building
Guangzhou / China

Details / Specials

- Panel material: sandstone
- Panel size: 1.2 m x 0.9 m
- Panel thickness: 30 mm
- Joints: open
- Anchors: FZP 13x24M8/6Kt/14AL
- Subframe: General Subframe
- Special notes: rainscreen cladding with sandstone.
  First sandstone cladding project in China. Highest standstone project with anchor fixing of the world (108M).
NAGA Project
Beijing / China
NAGA Project
Beijing / China

Companies
- Investor: Beijing Tianheng Real Estate CO.LTD
- Architect: Ovd Arup & Partners /(Kent M.C.Lui)
  Harry Lim & Associates
- Facade consultant: ARUP

Object data
- Facade type: porcelain stoneware
- Building height: 60m
- Area: 20,000 m²
- Construction end: 2006
NAGA Project
Beijing / China

Details / Specials
- Panel material: porcelain stoneware panel
- Panel size: 0.596 m x 0.396 m
- Panel thickness: 10 mm
- Joints: close
- Anchors: FZP 11x7 M6 K/9 A4
- Subframe anchor: UK3 chemical mortar
- Special notes: porcelain stoneware panel with 10 mm thickness. Sub-frame and fixing components provided by fischer. Successful seismic test simulation, grade 9 on Richter scale.
MoorHouse
London / Great Britain

Exterior view of the building
MoorHouse
London / Great Britain

Participating companies
- Architect: Sir Norman Forster
- Planning panelling: fischer / fischer UK
- Panelling: Gormley Ltd.

Object data
- Height 99 m
- 18 floors
- Office building
MoorHouse
London / Great Britain

Details / Specials

- Panelling as indoor application
- Format of the panels 497 x 2110 x 40 mm
- Material of the panels roman Travertin
- Open-pored material
- Horizontal gap 3 mm
- Vertical gap cladded with high grade-steel batten
- 4500 pieces FZP 13x26 M8W
Softech Telecom
Wicklow / Ireland
Softech Telecom
Wicklow / Ireland

Participating companies
- Builder: Skanska
- Architect: Forster and Partners
- Planning of the facade: Stone Development and fischer
- Facade: Stone Development

Object data
- Buildings of the Telecom Ireland
Softech Telecom
Wicklow / Ireland

Details / Specials

- Horizontal and vertical bands with deep reveals
- Triangular support columns at the corner of the building
- Format of the panels 750 x 750 x 30 mm
- Jura limestone
- 600 m²
- FZP 13x26 M8W/6kt/17 AL
- SystemOne
Ventilation building of the Brooklyn Battery Channel
New York / USA
Ventilations building of the Brooklyn Battery Channel
New York / USA

Participating companies
- Architect: Digeronimo PA, Paramus, New Jersey
- Subframe / anchor: fischer GmbH & Co. KG
- Acquisition: Probe Construction, Wayne, New Jersey (ACT Importeur)
- Purchaser: Triborough Bridge and Tunnel Authority, New York
- Statics: CDC Curtain wall design, Dallas, Texas
- Supplier of the plates: North Carolina Granite, Mt. Airy NC

Objekt data
- Governor´s Island, Brooklyn, New York
- Ventilationsbuilding of the Brooklyn Battery Channel
- Reconstruction of a Granite-facade (Monument protection)
Ventilations building of the Brooklyn Battery Channel
New York / USA

Details / Specials

- In Fort Lauderdale (Florida) precasted subframe elements (ladder scaffold)
- Loadtransfer on slab plate with adhesive anchor
- 4,000 m² Granite facade
- 16,000 pieces FZP 13x24 M8/6kt
- Format of the panels ca. 1,5 m²
- Weight of the panels ca. 120 kg
- Height of the building ca. 36 m
- Location: close to the sea, saltwater
Concorde Hotel
Berlin / Germany
Concorde Hotel
Berlin / Germany

Participating companies

- Investor: Grothe Immobilien Projektierungs KG, Bremen
- Architect: Jan Kleihues, Kleihues + Kleihues Architekten, Berlin
- Main contractor / GU facade: Rheinhold & Mahla
  Fassadentechnik, Oststeinbeck GmbH
- Facade consultant: Erich Mosbacher, Friedrichshafen
- Statics natural stone: Ing.-Büro für Befestigungs-Technik
  GmbH, Niederzissen
- Natural stone: „Kirchheimer Muschelkalk“ der Kelheimer
  Naturstein GmbH, Essing
- Fixing Systems: fischerwerke GmbH & Co. KG

Object data

- Hotel with 17 floors
- Height of the building: 65m
Concorde Hotel
Berlin / Germany

Details / Specials

- Facade surface 9.200 m²
- In the balustrade flutes were milled into the facade plate
- Tolerance of the facade ± 1 mm
- Wind suction max. 2.400 N/m²
- Wind pressure max. 1.350 N/m²
- Column elements pre-assembled
- Used products:
  - FZP 13x30 M8W/ES
  - FZP 13x21 M8W
  - LW 50
  - LW GP
  - FAZ A4
Concorde Hotel
Berlin / Germany

Details / Specials
Administration building NCC
Hellerup / Denmark
Administration building NCC
Hellerup / Denmark

Participating companies

- Builder: Ejendomsintressentselkskabet Tuborg Nord C
- Architect: Schmidt, Hammer & Lassen K/S
- Natural stone: Skifer & Naturstein Norwegen

Object data

- Administration building NCC Denmark A/S
- Area: 1.700 m²
Administration building NCC
Hellerup / Denmark

Details / Specials

- Material of the facade: black Otta-Phylitt slate from Norway
- High tolerances for the board thickness because of the material of the plates slate (33 ± 5 mm)
- Facade panels in landscape format
- Format of the panels 1500 x 390 mm
- SystemOne light underconstruction on steel frame construction
- Ca. 12.000 pieces FZP 13x20 M8/10 A4
- Wind load –2,24 kN/m² bis +1,49 kN/m²
- Working hours/m²
City-Center
Leipzig / Germany
City-Center
Leipzig / Germany

Participating companies
- Original concept: Professor Hanselmann
- Reconstruction: Wiesbadener Immobilien AG
- Fixing elements: fischer GmbH & Co. KG
- Subframe: Wendker Fassaden
- Facade contractor: Wendker Fassaden

Object data
- Natural center of the University complex as Uni-giant Leipzig
- The landmark of Leipzig
- New terms as City-Center and domicile of the „Mitteldeutscher Rundfunk“
City-Center
Leipzig / Germany

Details / Specials

- Height of the building 150 m / 34 storeys
- Only 2 cm thickness of the stone
- Format of the panels 1,2 x 0,9 m with 4 anchors per panel
- Light-grey „Padang“ from a south Chinese quarry
- Area ca. 12.500 m²
- 50.000 pieces FZP 11x21 M6/6kt/12 AL
- Wall elements partly with external window and anti-glare shield construction with format 1,8 x 3,6 m, 450 kg were milled into a Aluminium-framework in a workshop
- 250 m² facade was installed per day.
- Wall elements were fit in the used support brackets without bolts
- Concave arched outer surface