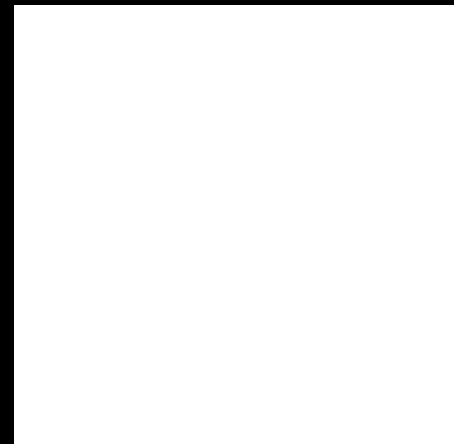


USA

ARCHITECTURAL TERRA COTTA

nbk NORTH AMERICA INC.

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E-Mail: budstreff@nbkusa.com

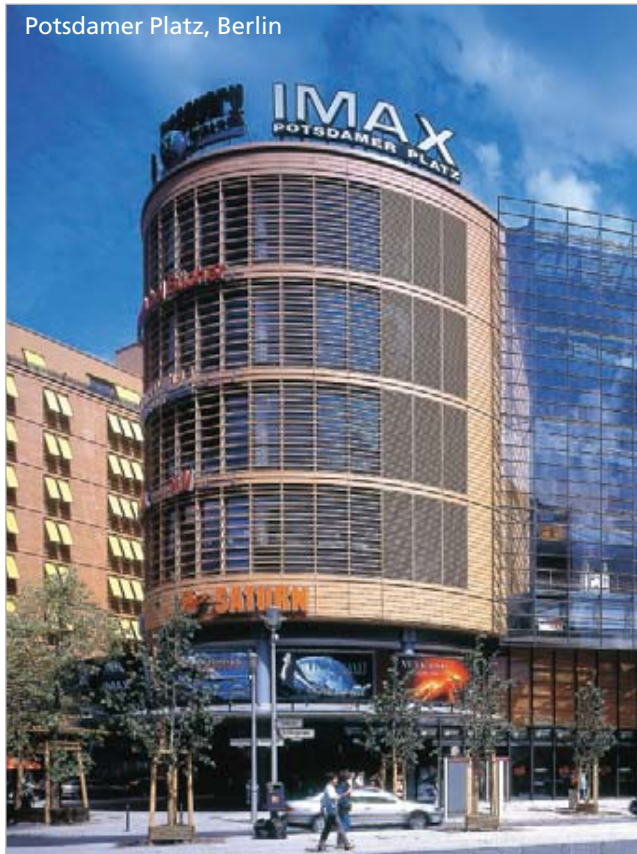


www.nbkusa.com



nbk NORTH AMERICA INC.

Potsdamer Platz, Berlin



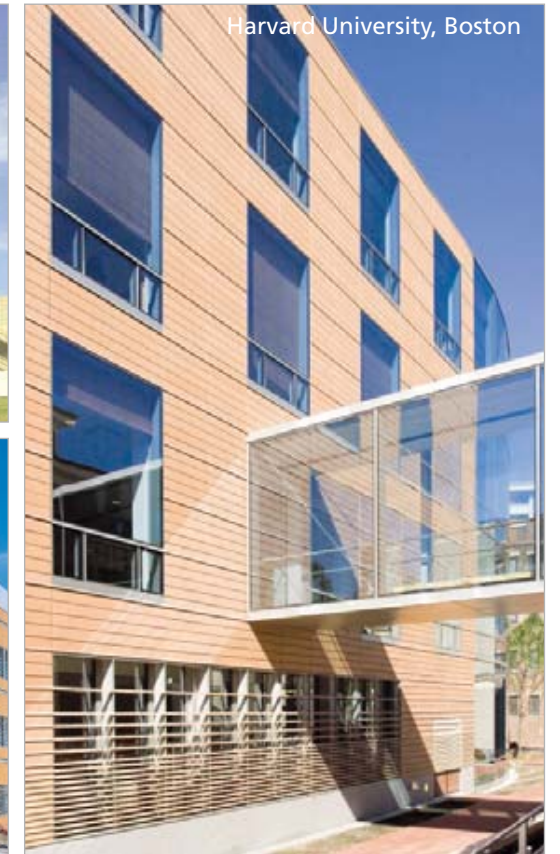
AIG European Headquarters, London



University of Texas, Houston



Harvard University, Boston



Donald Danforth Center, St. Louis



Memorial Sloan Kettering, New York



Amherst College, MA



University of Washington



Kendall Square, Cambridge, MA

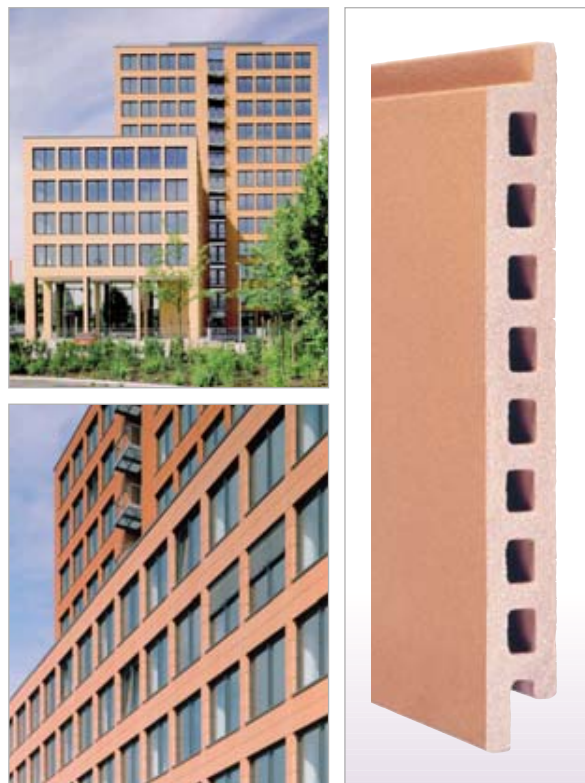


Sparkassenzentrale, Münster



Harvard, Mt. Auburn Street





Hollow chamber cross section double leaf with a thickness of up to 1-1/2 inches (40mm).

Variable heights and lengths on request.

Height: max. 2'-0" (600mm)

Length: max. 6'-0" (1800mm)

Weight per unit area: approx. 11.5 lb/sq.ft.



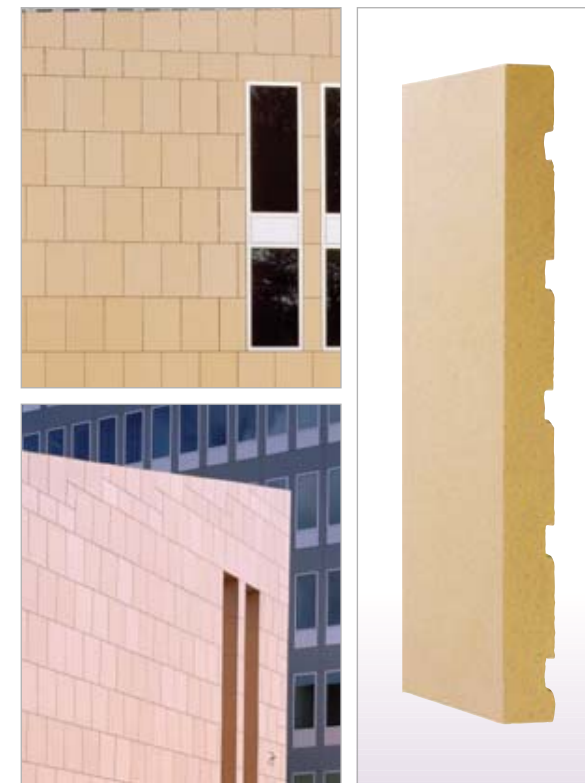
Hollow chamber cross section double leaf with a thickness of up to 1-1/4 inches (30mm).

Variable heights and lengths on request.

Height: max. 1'-0" (300mm)

Length: max. 4'-0" (1200mm)

Weight per unit area: approx. 10.3 lb/sq.ft.



Solid cross section with a thickness of up to 1-1/4 inches (30mm).

Variable heights and lengths on request.

Height: max. 2'-0" (600mm)

Length: max. 4'-0" (1200mm)

Weight per unit area: approx. 13.0 lb/sq.ft.



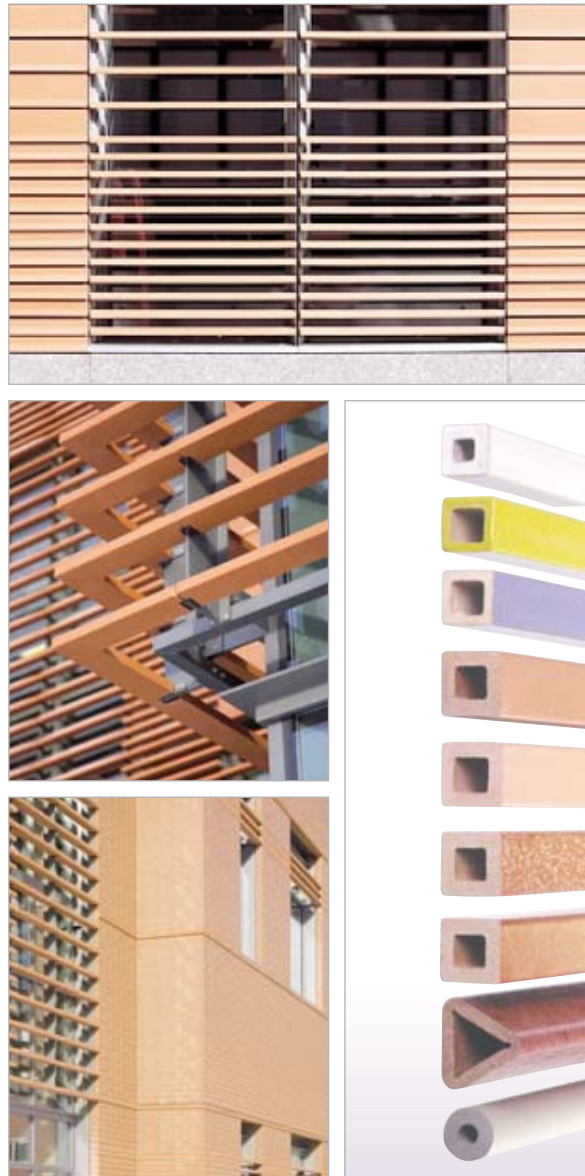
Hollow chamber cross section double leaf with a thickness of up to 1-1/2 inches (40mm).

Variable heights and lengths on request.

Height: max. 2'-0" (600mm)

Length: max. 6'-0" (1800mm)

Weight per unit area: approx. 13.0 lb/sq.ft.



The TERRART®-Baguette is one of the ceramic variants. Its minimum cross section is 1-1/2 inches x 1-1/2 inches (40 x 40)mm. The most common format is 2 x 2 inches (50 x 50) mm. It is also available as double, in rectangular, round and triangular shapes. Other dimensions and forms are available.

Weight per unit area: approx. 2.4 lbs.



A multitude of profiles are available for the surface design of the TERRART® ceramic elements. The broad design spectrum ranges from the finest structure up to the strongly profiled plastic relief. Natural surfaces, horizontal profiles and peeled surfaces are part of our standard program. In addition, TERRART® façades can also be designed with individual profiles and surfaces.



The range of TERRART® products offers numerous other shapes and sizes. This gives the designers the opportunity to create signature buildings on every NBK terra cotta project. Custom designed shapes and profiles, solid corner tiles, radius tiles, and radius baguettes, window sill and wall copings, are some of the features we are able to produce for your project.

Absorption	ASTM C67-02c
Color 1.01-0	4.0 - 5.7 %
2.01-0	
3.01-0	
5.01-0	4.7 - 6.4 %
6.01-0	
6.02-0	
4.01-0	5.2 - 6.2 %
7.01-0-3	
7.04-0	

Modulus of Rupture (Flexure Test)	ASTM C67-02c
Color 1.01-0	2755 - 3379 lb/in ²
2.01-0	
3.01-0	
5.01-0	2581 - 3219 lb/in ²
6.01-0	
6.02-0	
4.01-0	2552 - 3002 lb/in ²
7.01-0-3	
7.04-0	

Weight per Unit Area	ASTM C67 02c
	130 - 135 lb/ft ³

Linear Coefficient of Thermal Expansion
0.04 %

Freeze and Thaw Test	ASTM C67 02c
50 / 100 cycles	passed

Hardness Resistance Mohs Scale
Various Standard Colors 7-9

Efflorescence	ASTM C67 02-c
	no effloresced

Chemical Resistance Test
ASTM C126-99
no change in color or texture

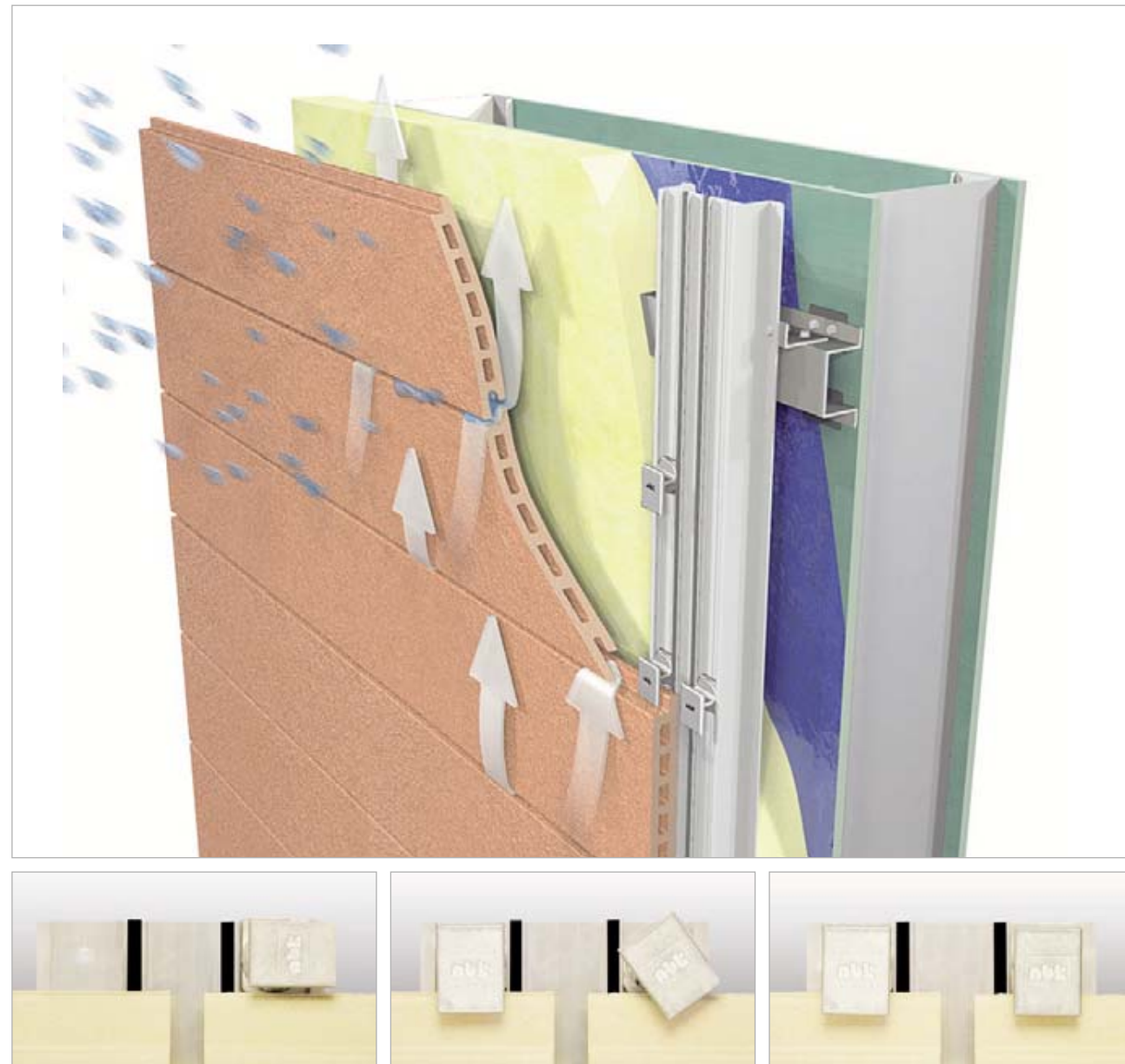
Dimensions and Tolerances	
Width up to 70"	+/- 0.04" for cut length (center in hole direction)
height (opposite to hole direction)	+/- 0.078" up to 10" +/- 0.100" up to 15" +/- 0.120" up to 20" < 20" on request
Thickness (cross section)	+/- 0.060"
Straightness (in hole direction)	+/- 0.2 % of length
Diagonal Flatness	+/- 0.2 % of diagonal
Vertical Flatness	+/- 1.0 % of height
Torsion	+/- 0.2 % of diagonal

Note: All other formats, dimensions and special sizes available on inquiry basis. Subject to change without notice.
NBK, September 2005



TERRART® glazes and honed finishes are being increasingly exploited as a design feature in contemporary architecture. NBK's expertise in complicated mixing techniques and traditional firing methods, allows virtually any color and surface texture specification to be met to the letter.

This allows our company, in consultation with designers of exclusive product assortments, to make unique buildings. The colors shown represent only a few of our overall range. Any required shade can be provided upon request.



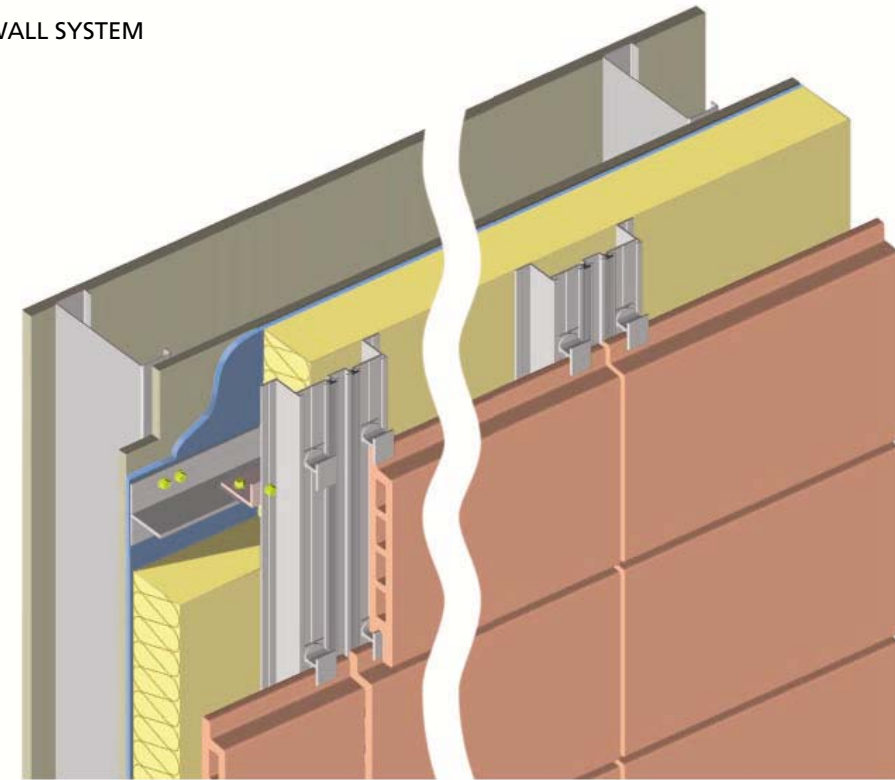
The NBK TERRART® ceramic clay tile facade system is custom designed and engineered, which is based on the rainscreen principle. The vertical joints are backed by a support system which drains rainwater away from the cavities behind. The gaskets, together with balanced air pressure, discourages water from entering the wall cavities.

The tile design allows for air to flow through „open joints“, which helps to balance air pressure

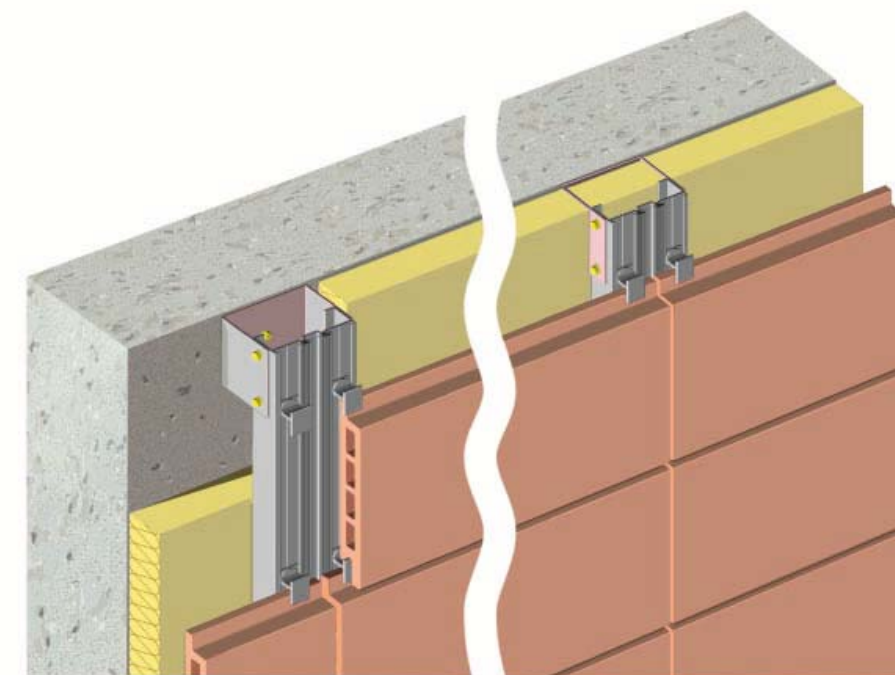
in the cavities behind the terra cotta cladding elements with that of outside air; hence, the term - pressure equalization.

Driven rainwater will not enter the cavities because of the overlapping joints („protected openings“) and lack of pressure differential. The „back-ventilation“ assists in maintaining a dry cavity and negates the buildup of hot air, an additional benefit to the TERRART® rainscreen system.

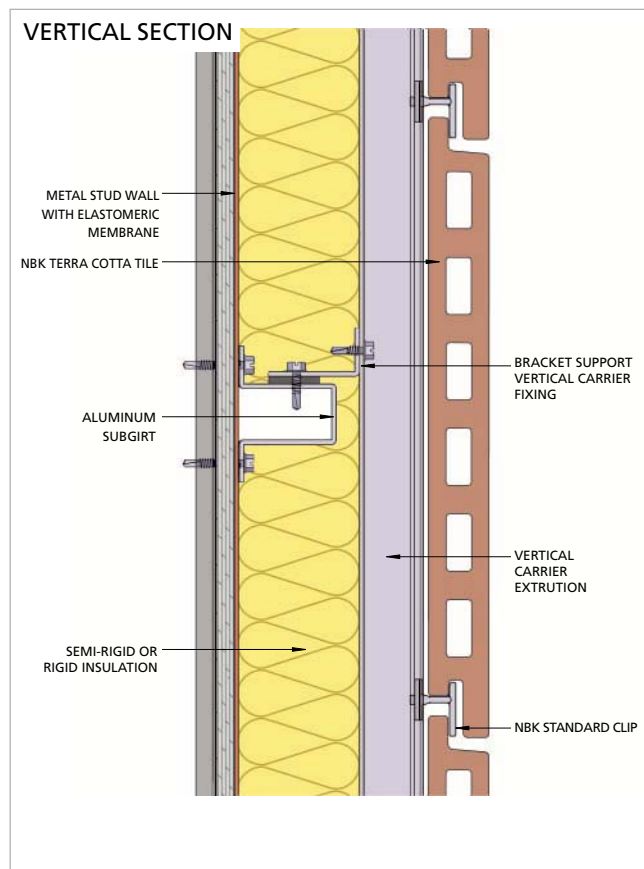
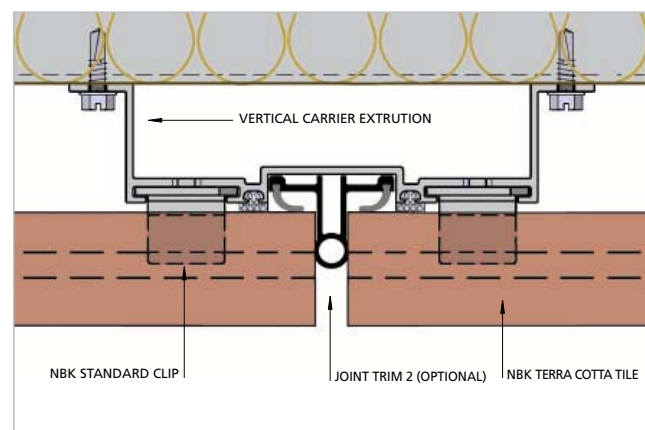
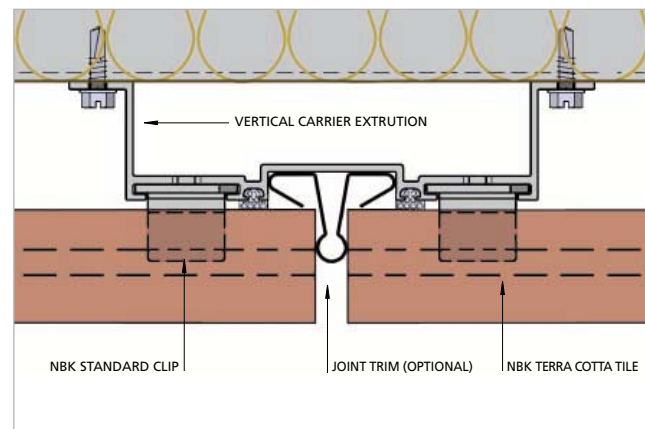
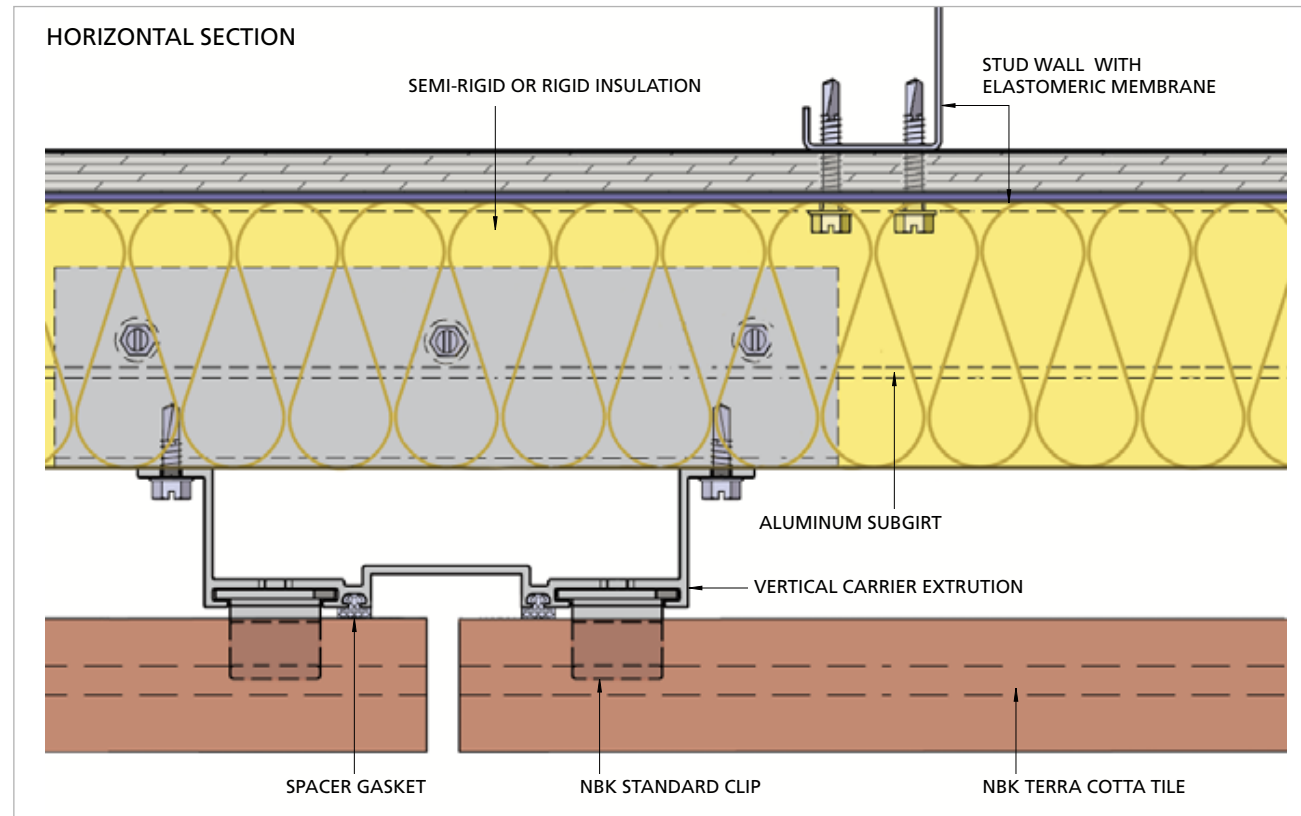
METAL STUD WALL SYSTEM



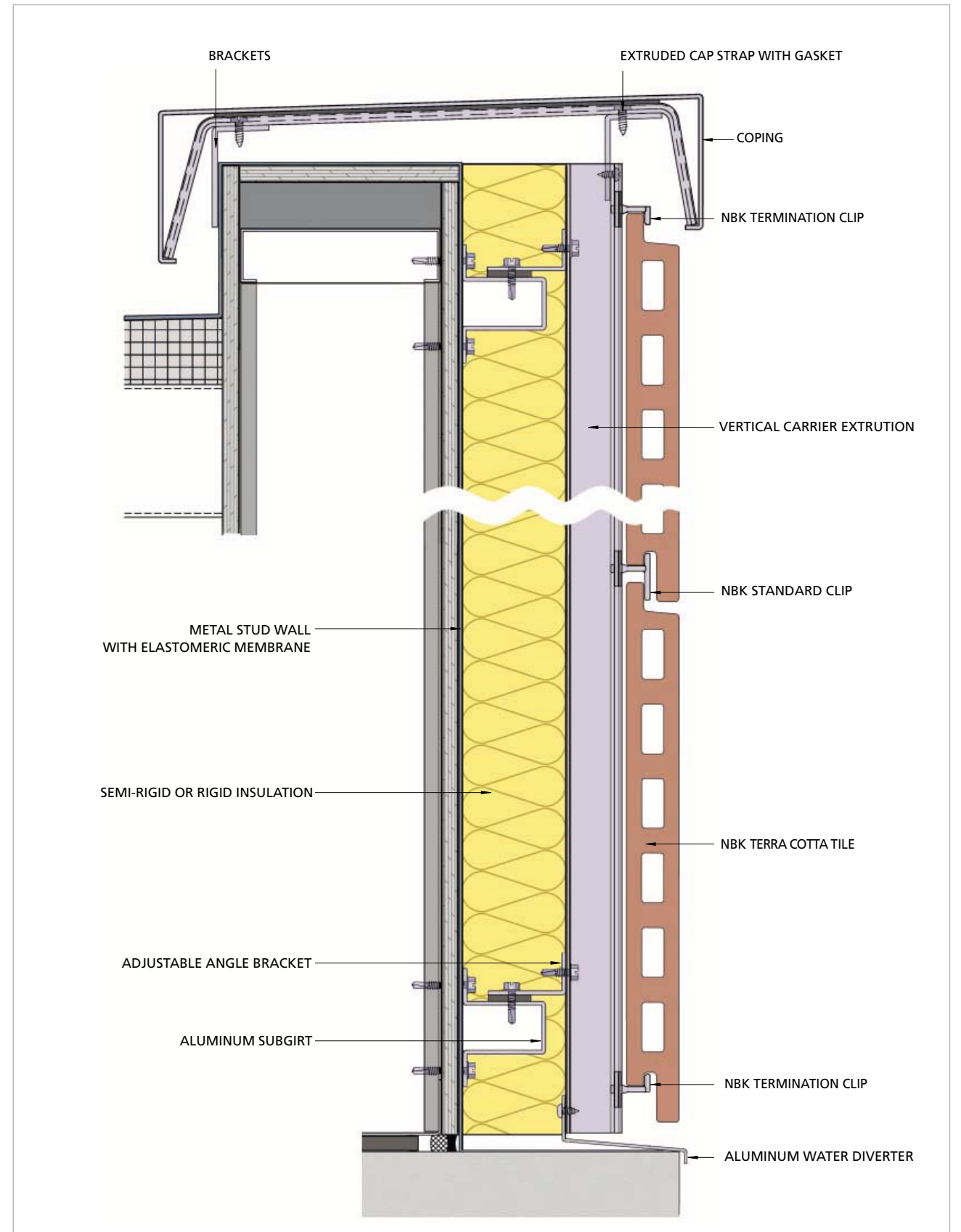
SOLID BLOCK OR CONCRETE WALL SYSTEM

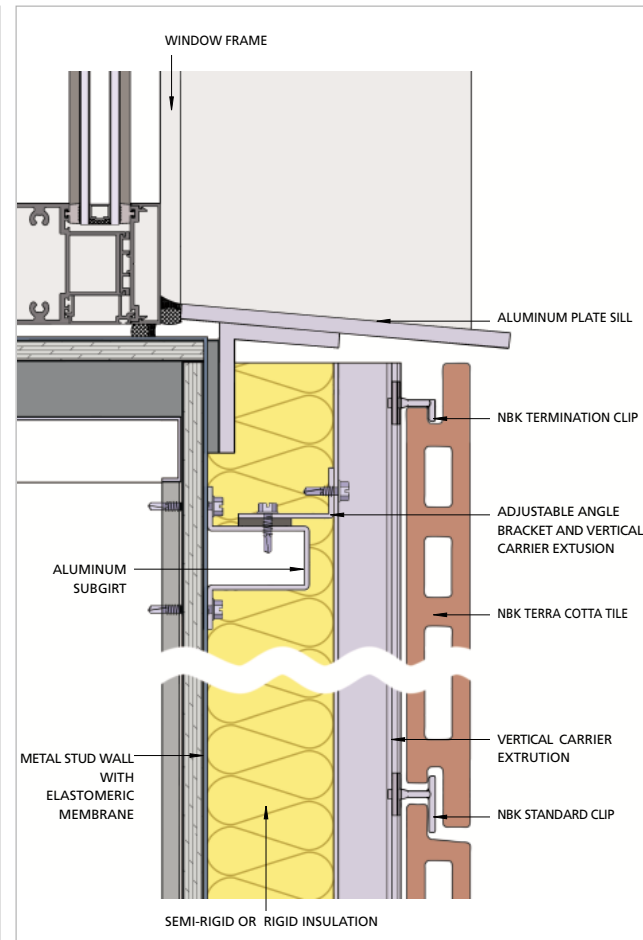
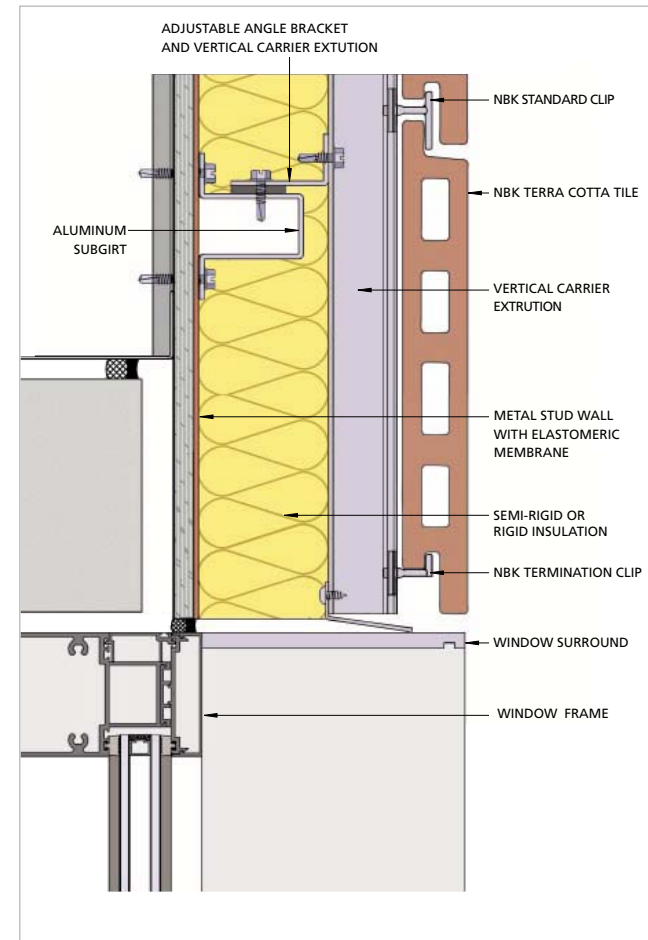


HORIZONTAL AND VERTICAL DETAILS TERRA COTTA RAINSCREEN WITH METAL STUD WALL BACK-UP

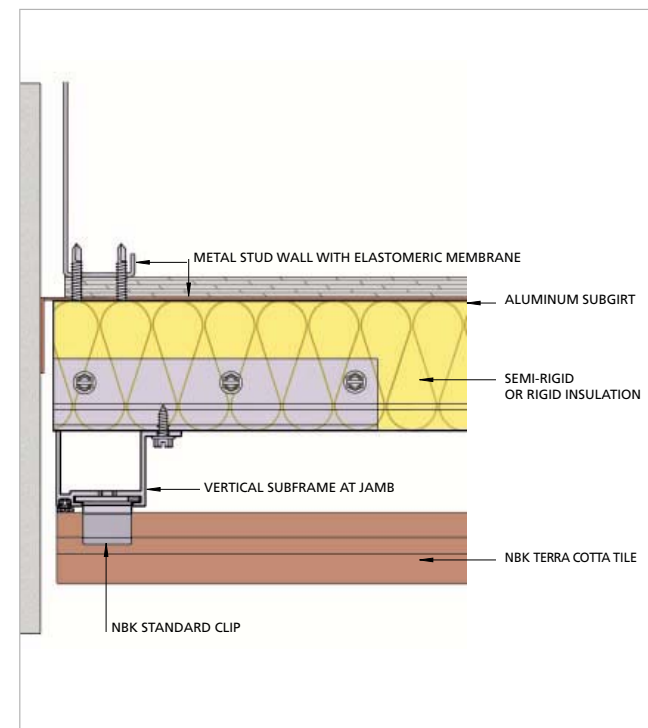


VERTICAL SECTION DETAIL THRU TERRA COTTA TILE AT COPING SECTION WITH CONCRETE BASE ON METAL STUD WALL SYSTEM

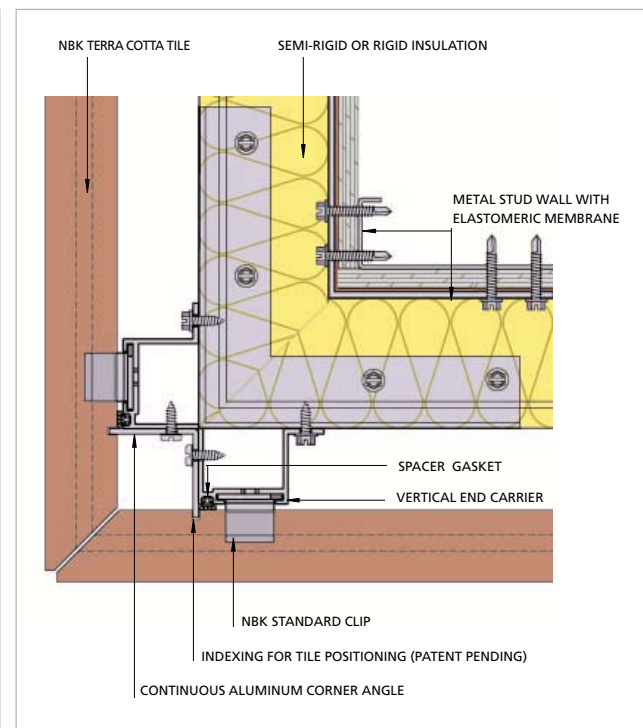




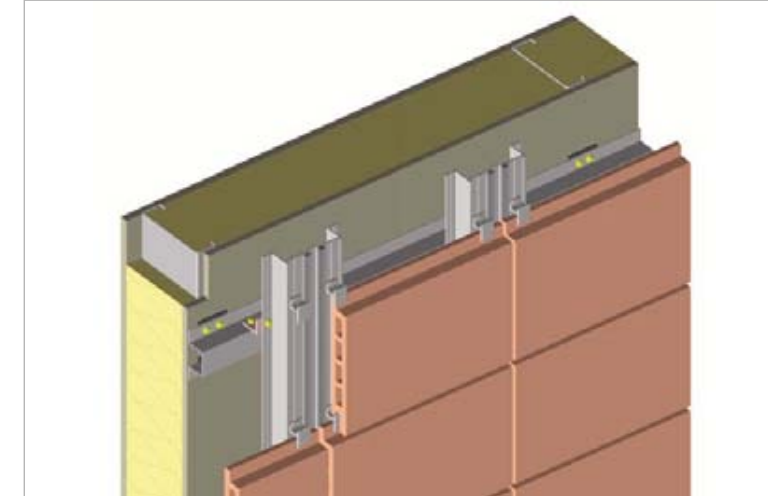
DETAIL AT JAMB



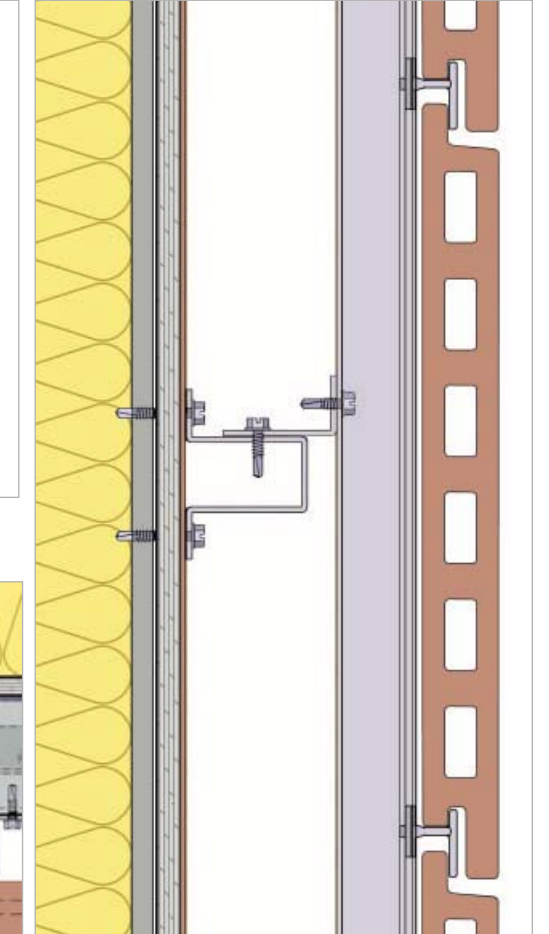
DETAIL AT CORNER



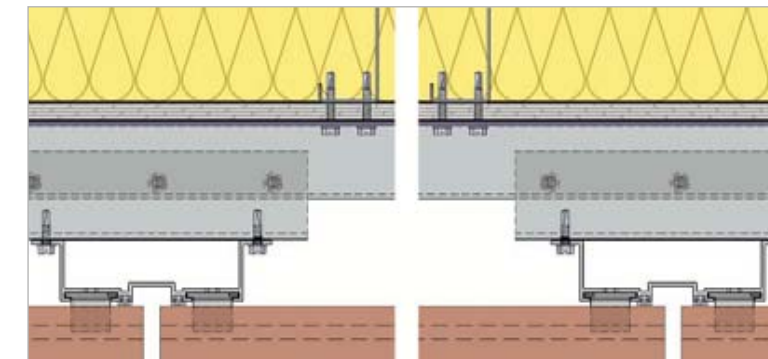
ISOMETRIC VIEW



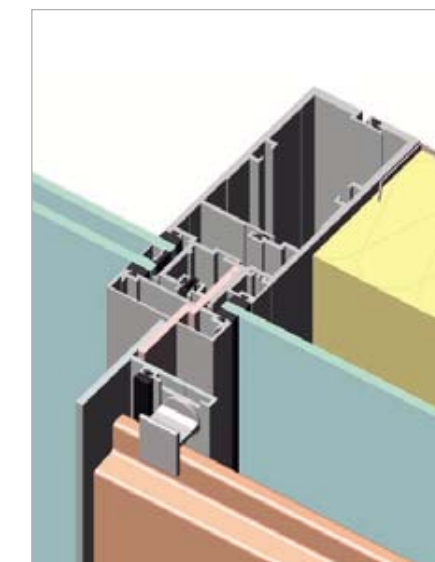
VERTICAL SECTION



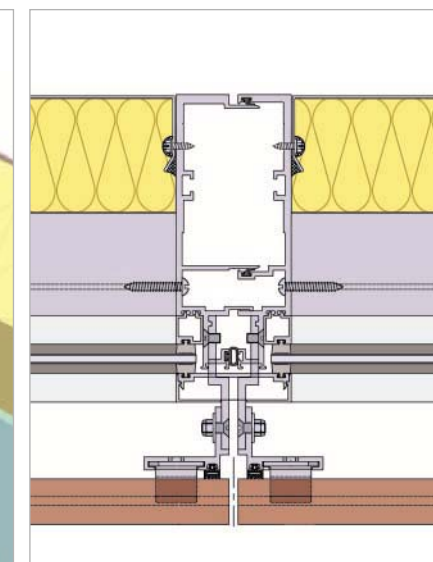
SECTION



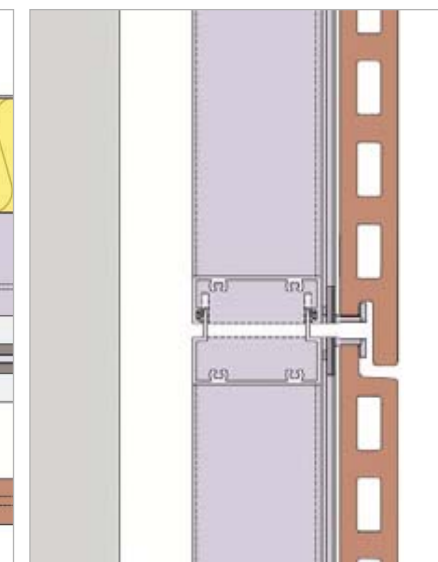
ISOMETRIC VIEW

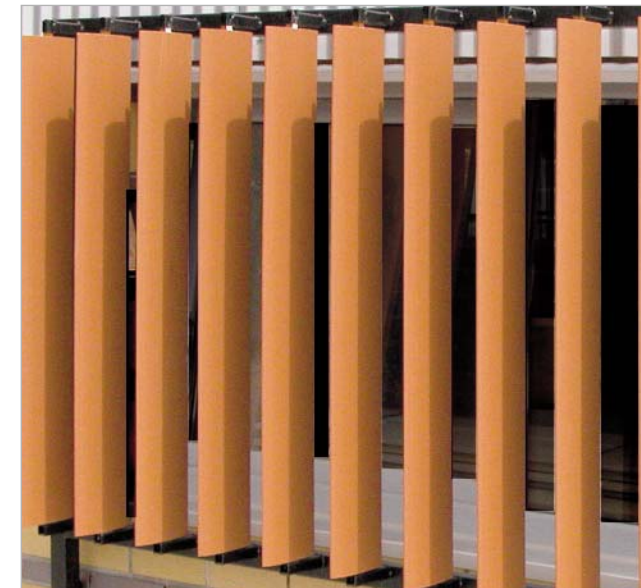
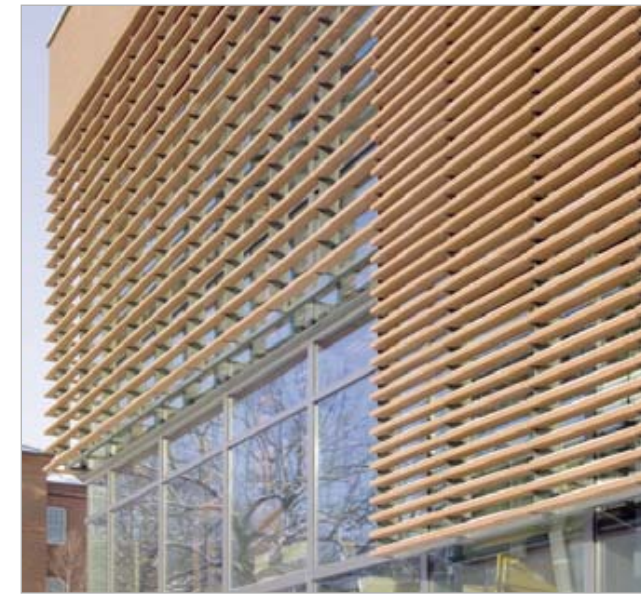
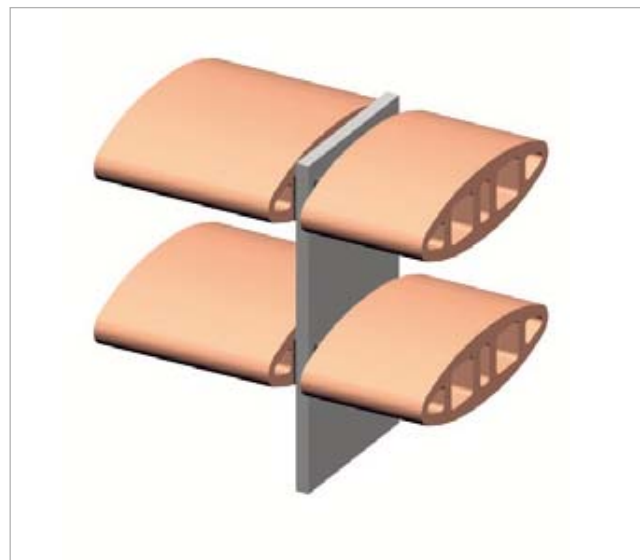
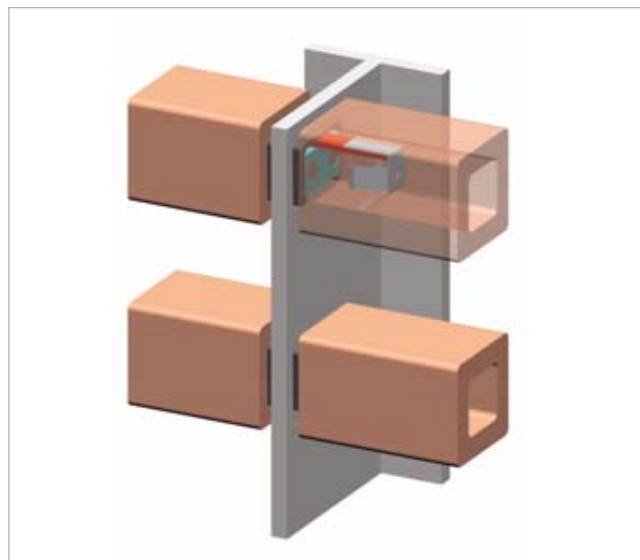
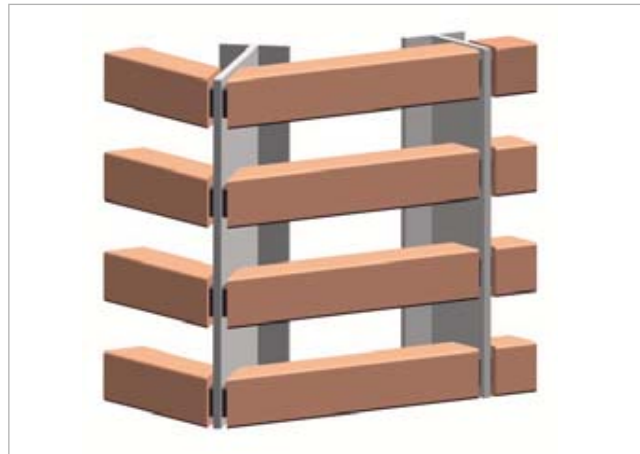
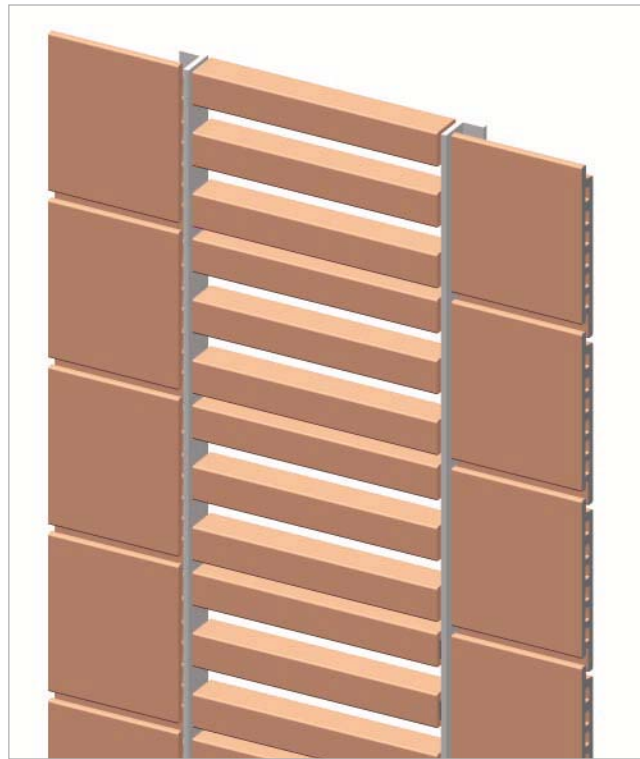


PLAIN VIEW



VERTICAL SECTION THRU STACK JOINT







OVERSEAS PACKING AND CLEANING INSTRUCTIONS



For oversea shipping, NBK provides packing of all terra cotta elements in custom-made heavy-duty wooden crates. Pieces are carefully packed; fiberboard and styrofoam are used as spacers so that the tiles can't touch each other. This packing will limit damage during shipping and transport under normal conditions.

Cleaning Instructions for NBK Cladding Panels
 If there is light dirt or dust, the cladding panels can be cleaned with a dry cloth.
 If larger areas are dirty, the facade should be cleaned with plenty of clear water.

On site cutting will leave a residue on the surface which must be removed immediately with clean water.

SMALL SIZE TILES VS LARGE SIZE TILES

Wall Section 16'-0 x 16'0	Large Tiles (Vertical System) Tile Size Module 8" x 48"			Small Tiles (Horizontal System) Tile Size Module 8" x 19,2"			Difference in Quantities
	pieces	L.F.	remarks	pieces	L.F.	remarks	
Quantity of tiles	96			240			250
Quantity of standard clips	184			460			250
Quantity of termination clips	16			40			250
Wall Brackets to Stud Wall (thermal bridges)	25		adjusted	144		adjusted	576
Vertical Profiles	5	80	adjusted	12	192	adjusted	240
Horizontal Tracks	5	80	positioned	25	400	positioned	500
Joint Profiles	5	80	optional	11	176		220