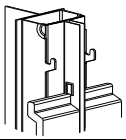
ADS "TONALITY ®" Adaptive system



TONALITY NATURAL FACADES

	Description	Drawing / File name CD-ROM with DWG-, PDF-files	Color page	File page
1	Basics			
1.1	Structural survey of ADS applied onto vertical substructure; joint options	ANo.: ADS 100-01v		ADS 01
1.2	How to install ADS onto vertical substructure	ANo.: ADS 100-02v		ADS 02
1.3	Structural survey of ADS applied onto horizontal substructure; joint options	ANo.: ADS 100-01h		ADS 03
1.4	How to install ADS onto horizontal substructure	ANo.: ADS 100-02h		ADS 04
1.5	Recoveries and slides re. to vert. substructure	ANo.: ADS 100-04		ADS 05
1.6	Mounting pattern (vertical primary substructure)	ANo.: ADS 100-04/1		ADS 05-1
1.7	Mounting pattern (horizontal primary substructure)	ANo.: ADS 100-04/2		ADS 05-3
1.8	Replacement-division of joints- / carrier profiles	ANo.: ADS 100-05		ADS 06
1.9	Tile grid heights and replacement points	ANo.: ADS 100-06		ADS 07
1.10	Static reference notes	ANo.: ADS 100-26		ADS 08
1.12	Illustration of system depths and joint profiles	ANo.: ADS 100-07 + 08		ADS 10
1.13	Examplary use of wind barriers / curved walls	ANo.: ADS 100-22 + 23		ADS 11
1.14	Details of soffit clamps	ANo.: ADS 100-27		ADS 12
1.15	Details of how to fix shortened tiles (fitting piece,clamp)	ANo.: ADS 100-28 + 29		ADS 13
2	Typical details			
2.1	No. 1 : Vertical section of fixed / floating point	ANo.: ADS 100-19		ADS 20
2.2	No. 1.1: ... onto vertical wooden substructure	ANo.: ADS 100-19.1		ADS 20.1
2.3	No. 1.2: ... onto horizontal wooden substructure	ANo.: ADS 100-19.2		ADS 20.2
2.4	No. 1.3: ... onto horizontal metal substructure	ANo.: ADS 100-31		ADS 21
2.5	No. 2+3: V-section of roof parapet / bottom end	ANo.: ADS 100-20 + 21		ADS 22
2.6	No. 4+5: H-section of ext. corner (vert. substructure)	ANo.: ADS 100-09 + 10		ADS 23
2.7	No. 6+7: H-section of ext. corner (hor. substructure)	ANo.: ADS 100-24 + 25		ADS 24
2.8	No. 8: H-section of internal corner / expansion joint	ANo.: ADS 100-11 + 32		ADS 25
2.9	- Survey of window details No. 9.1: H-section window on vert. substructure	ANo.: ADS 100-13 + ADS 100-14		ADS 26
2.10	No. 10.1+11.1: Vertical section through window	ANo.: ADS 100-15 + 16		ADS 27
2.11	No. 9.2 + 9.3: H-section with clay tile soffit	ANo.: ADS 100-14.1+14.2		ADS 28
2.12	No. 11.3 : V-section of lintel soffit with clay tile	ANo.: ADS 100-15.1+15.2		ADS 29
2.13	No. 10.2: Vertical section of wimdowsill by clay tile	ANo.: ADS 100-33.1 + 33.2		ADS 30
2.14	No. 9.4: H-section of window, horiz. substructure No. 11.2: V-section of win. with sun protection	ANo.: ADS 100-17 + 18		ADS 31
2.15	No. 9.5+12: Horizontal section: transition from clay tile with Neoprene joint profile to reveal + TICS	ANo.: ADS 100-14.3 + 30		ADS 32
3	List of components			
3.1	Tile grid height 150 mm	ANo.: ADS ET 01 - 05		
3.2	Tile grid height 175 mm	ANo.: ADS ET 06 - 10		
3.3	Tile grid height 200 mm	ANo.: ADS ET 11 - 15		
3.4	Tile grid height 225 mm	ANo.: ADS ET 16 - 20		
3.5	Tile grid height 250 mm	ANo.: ADS ET 21 - 25		
3.6	Tile grid height 300 mm	ANo.: ADS ET 26 - 30		
3.7	Tile grid height 400 mm	ANo.: ADS ET 31 - 35		
3.8	Tile grid height 500 mm	ANo.: ADS ET 36 - 40		
3.9	Tile grid height 600 mm	ANo.: ADS ET 41 - 45		
3.10	Components irrespective of grid heights	ANo.: ADS ET A 01 - 04		

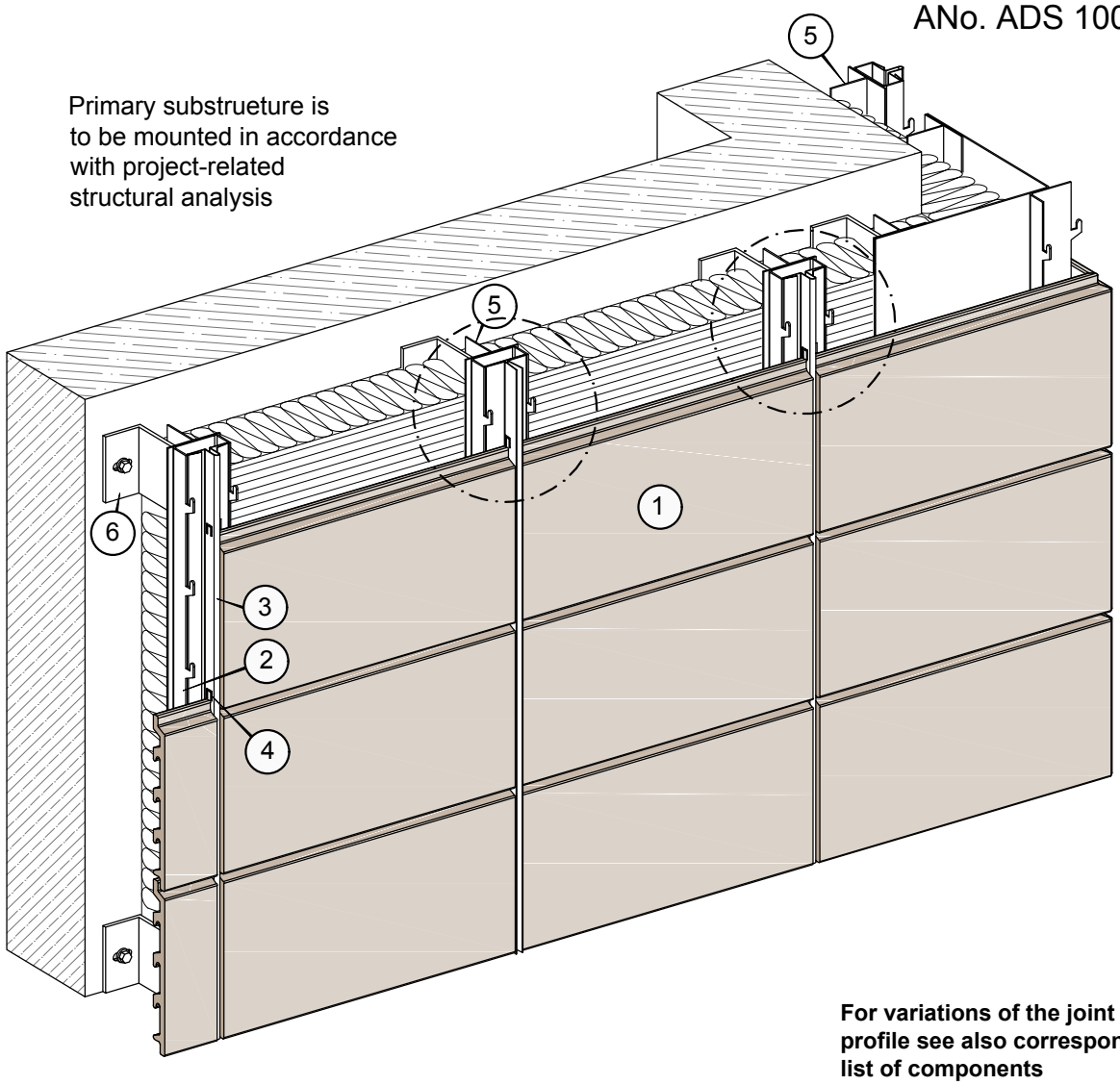
"TONALITY®"-Clay tile facade system

1. *"TONALITY®"*-Clay tile
2. *"TONALITY®"*-Adaptive vertical support profile (metallic)
3. *"TONALITY®"*-Adaptive joint profile (metallic)
4. *"TONALITY®"*-Protection against dismantling
5. Primary substructure: aluminium T-profiles (performer's services)
6. Primary substructure: metallic wall holders (performer's services)

"TONALITY®"-Clay tile facade
Adaptive system (ADS) applied onto vertical substructure
Structural overview and joint options

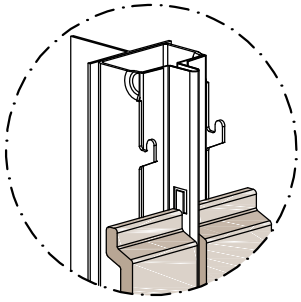
ANo. ADS 100-01v

Primary substrueture is to be mounted in accordance with project-related structural analysis

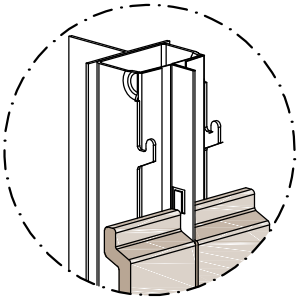


For variations of the joint profile see also corresponding list of components
ADS ET 02, -07, -12, -17, -22, -27, -32, -37, -42

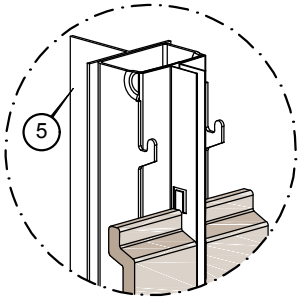
joint profile, continuous
joint 8 mm



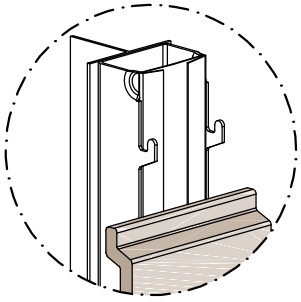
precision joint
joint 2 mm



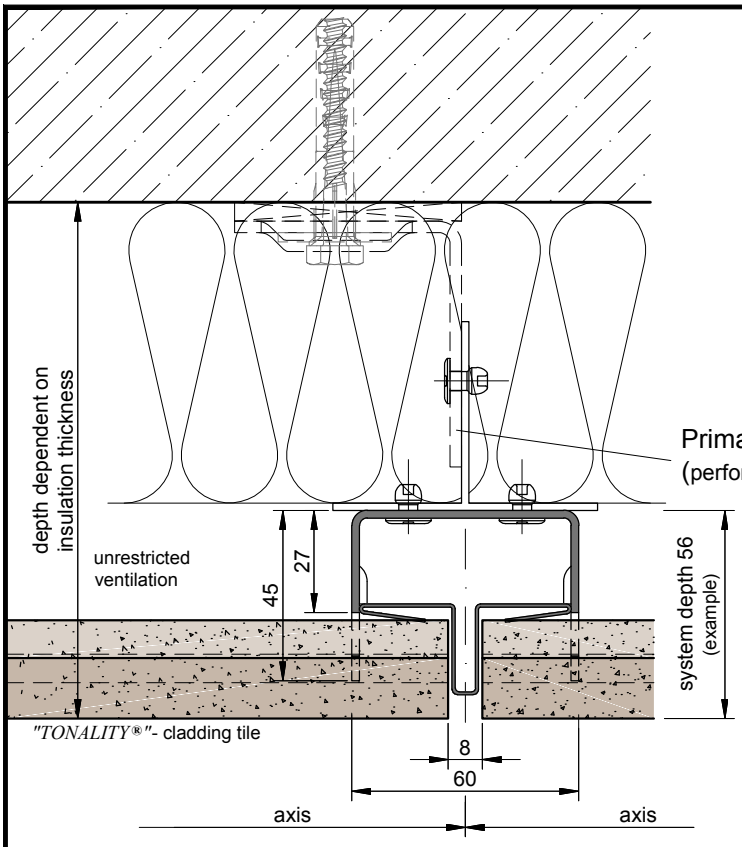
discontinuous joint profile
joint 8 mm



terminal profile for closing-off
No protection against dismantling



The Adaptive System
and its vertical substructure



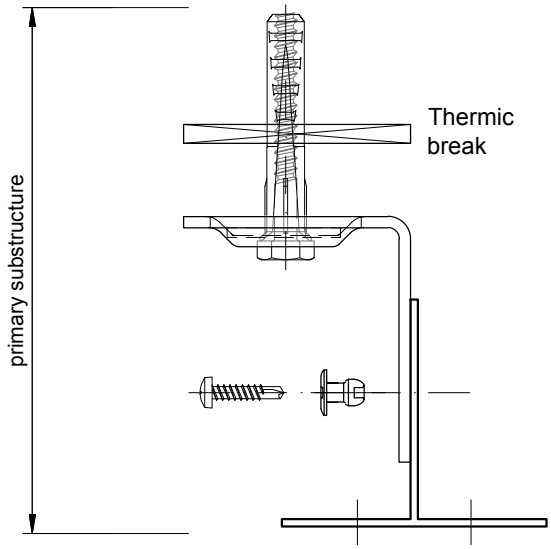
"*TONALITY®*" Clay tile facade
How to install the
Adaptive system (ADS)
onto vertical primary substructure

ANo. ADS 100-02v
Scale: 1:1 with DIN A3

Tile length =
Axis measurement - 2 x 3.0 - 2 x 1.0 = 8 mm

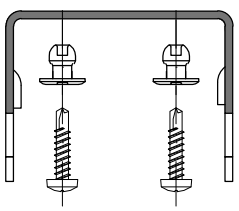
Example: Axis measurement = 450 mm
Exact tile length = 450 - 8.0 = 442 mm

Note:
These tiles have to be installed free from any constraint.



Primary substructure:
The determination of distances and the choice of bracket types, plugs, rivets and screws are subject to the project-related structural design according to which the performer has to proceed.

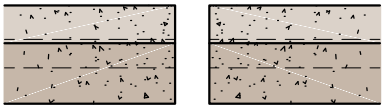
Wall holders, plugs and aluminium T-profiles are part of the performer´s services.



"*TONALITY®*"- *Adaptive vertical profile*

So do rivets / drilling screws;
and they depend on static figures.

"*TONALITY®*"- *Adaptive joint profile*



"*TONALITY®*"
cladding tile

"TONALITY®"
and its vertical substructure

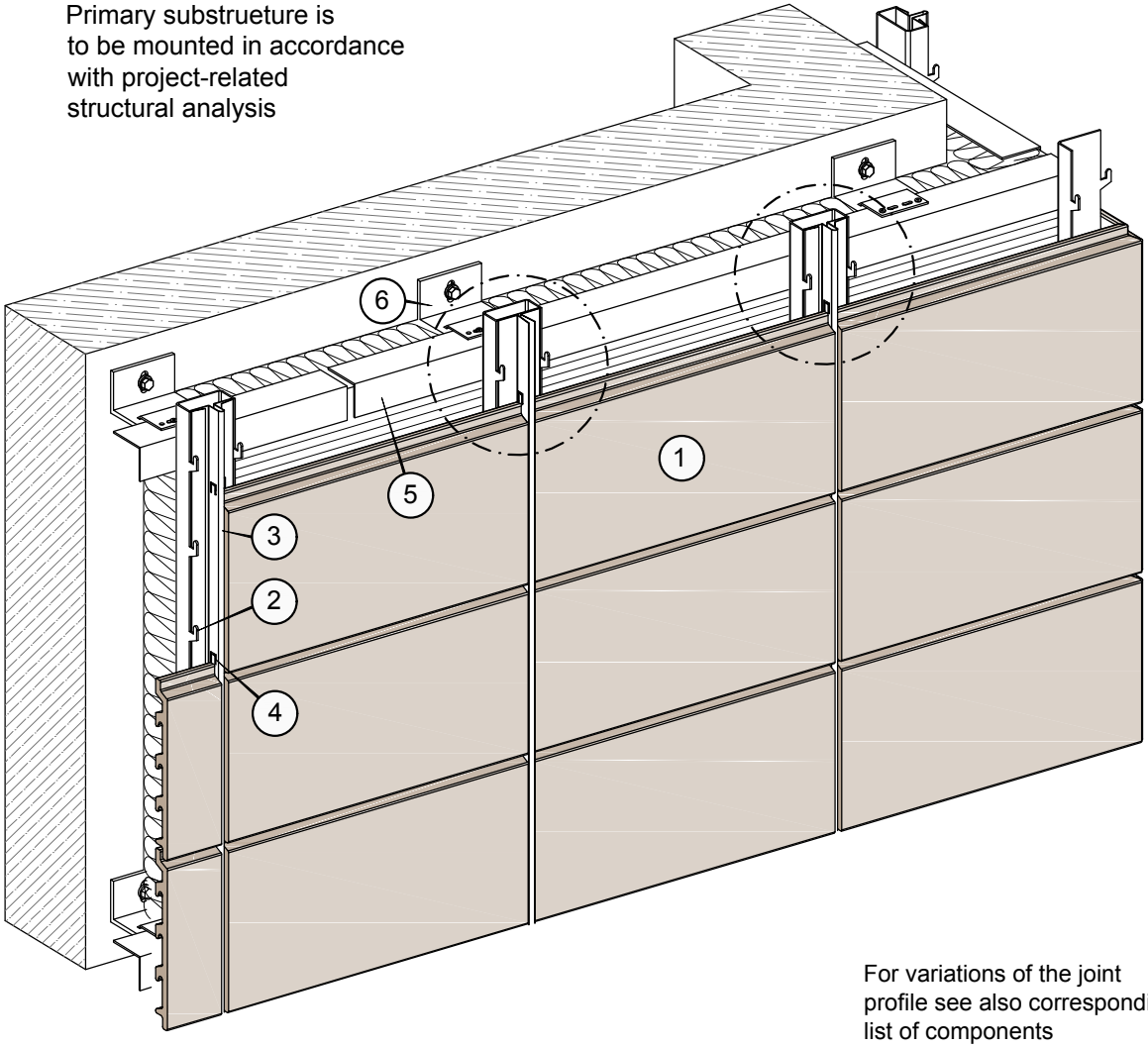
"TONALITY®"-Clay tile facade system

1. *"TONALITY®"*-Clay tile
2. *"TONALITY®"*-Adaptive vertical support profile (metallic)
3. *"TONALITY®"*-Adaptive joint profile (metallic)
4. *"TONALITY®"*-Protection against dismantling
5. Primary substructure: aluminium L-profiles (performer's services)
6. Primary substructure: metallic wall holders (performer's services)

"TONALITY®"-Clay tile facade
Adaptive system (ADS) applied onto horizontal substructure
Structural overview and joint options

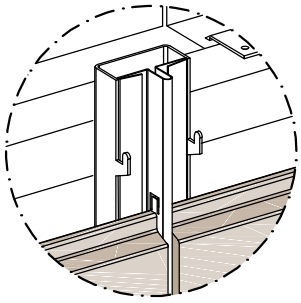
ANo. ADS 100-01h

Primary substrueture is to be mounted in accordance with project-related structural analysis

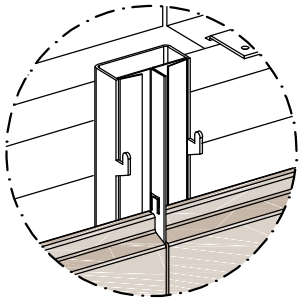


For variations of the joint profile see also corresponding list of components
ADS ET 02, -07, -12, -17, -22, -27, -32, -37, -42

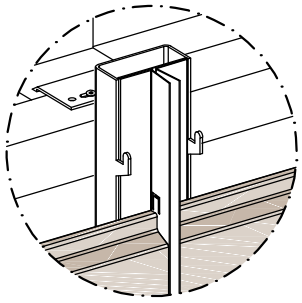
joint profile, continuous
joint 8 mm



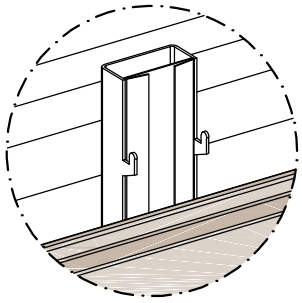
precision joint
joint 2 mm



discontinuous joint profile
joint 8 mm



terminal profile for closing-off
No protection against dismantling

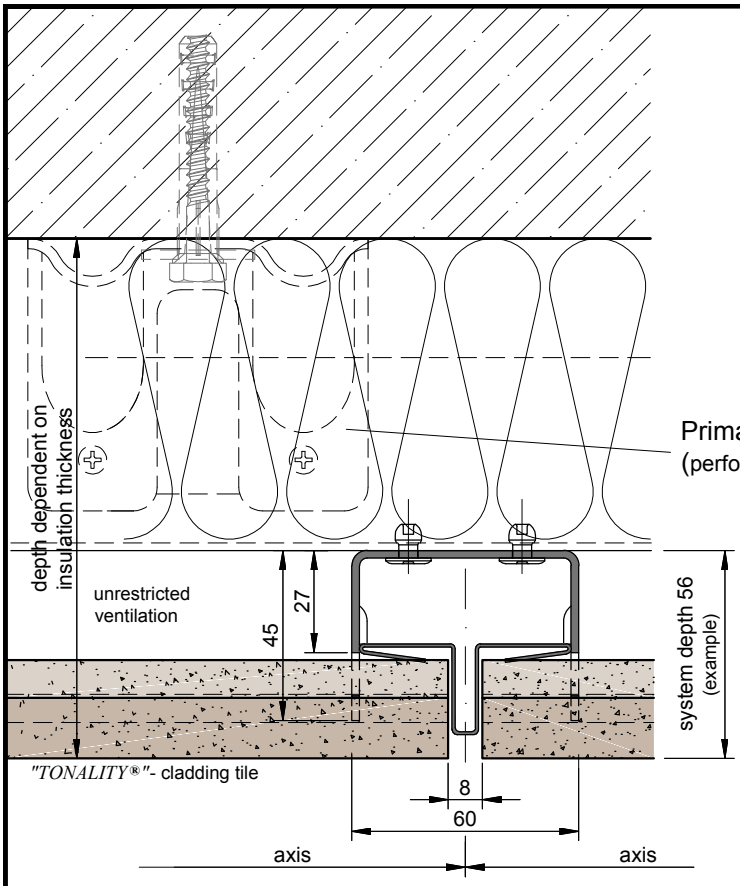


Structural overview of the Adaptive System mounted onto horizontal substructure

TONALITY NATURAL FACADES

*"TONALITY®"*Clay tile facade
How to install the
Adaptive system (ADS)
onto horizontal primary substructure

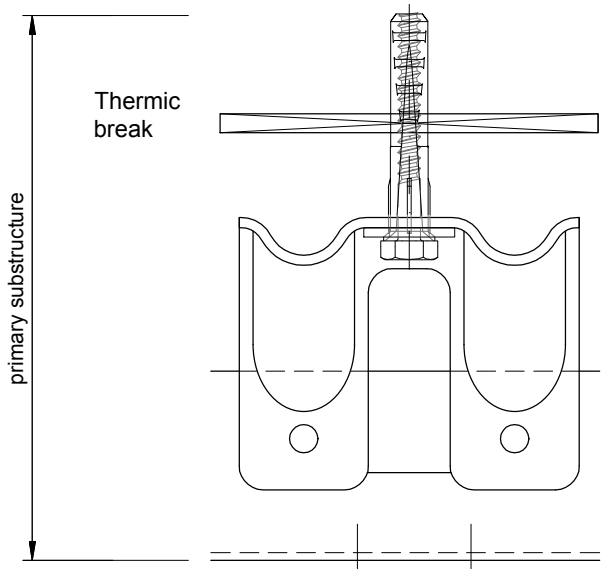
ANo. ADS 100-02h
Scale: 1:1 with DIN A3



Tile length =
Axis measurement - 2 x 3.0 - 2 x 1.0 = 8 mm

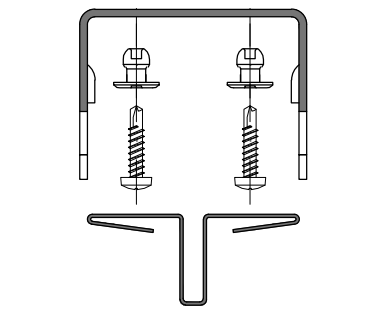
Example: Axis measurement = 450 mm
Exact tile length = 450 - 8 = 442 mm

Note:
These tiles have to be installed free from any constraint.



Primary substructure:
The determination of distances and the choice of bracket types, plugs, rivets and screws are subject to the project-related structural design according to which the performer has to proceed.

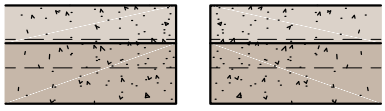
Wall holders, plugs and aluminium L-profiles are part of the performer´s services.



"TONALITY®" Adaptive vertical profile

So do rivets / drilling screws;
and they depend on static figures.

"TONALITY®"-Adaptive joint profile



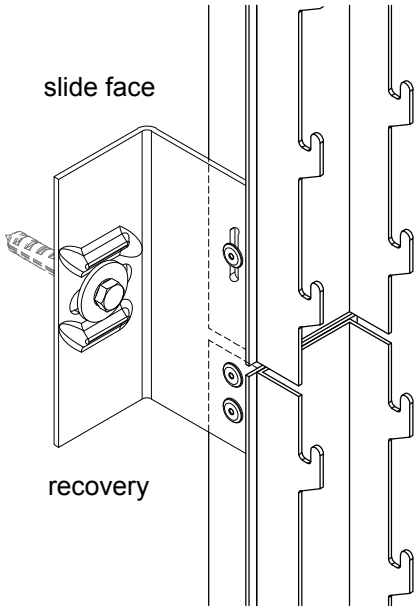
"TONALITY®"
cladding tile

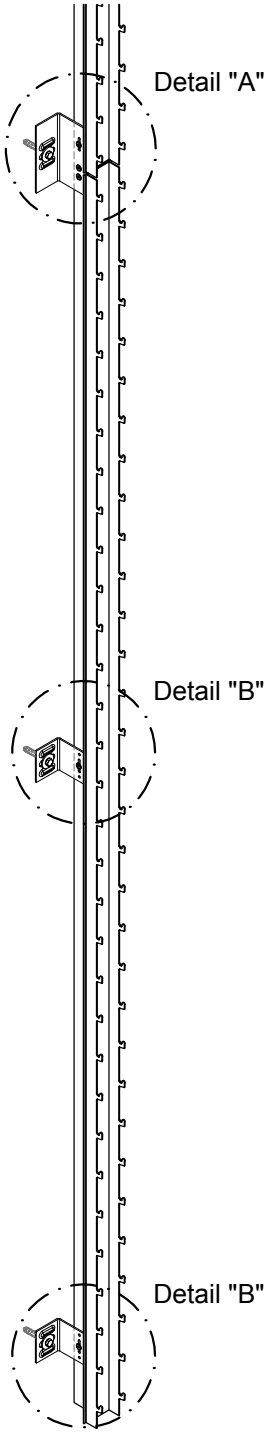
"TONALITY®"
and its vertical substructure

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Illustration of recoveries and slides relating to vertical primary substructure

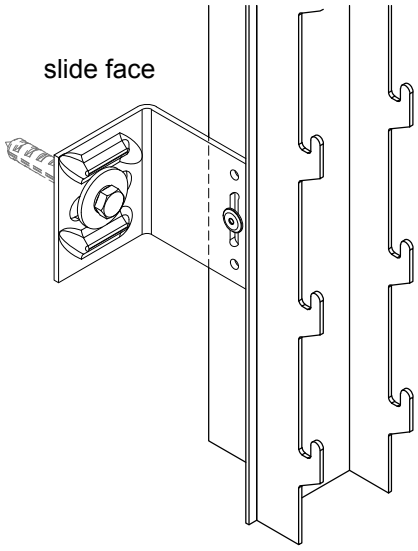
ANo. ADS 100-04

Detail "A"





Detail "B"



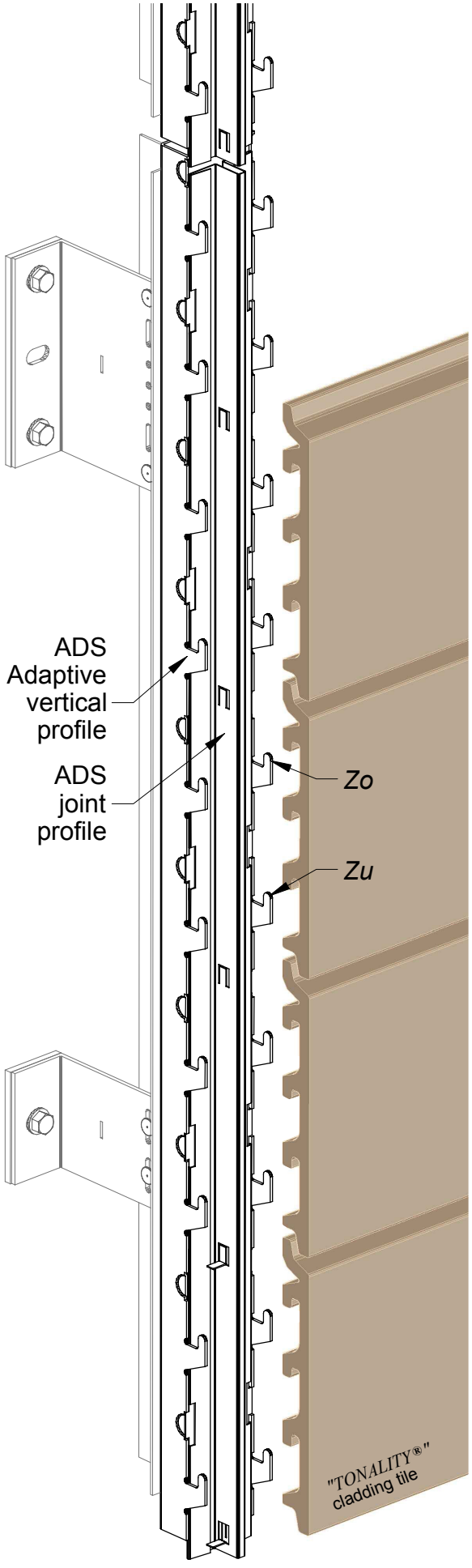
The number of wall holders is defined by structural design.

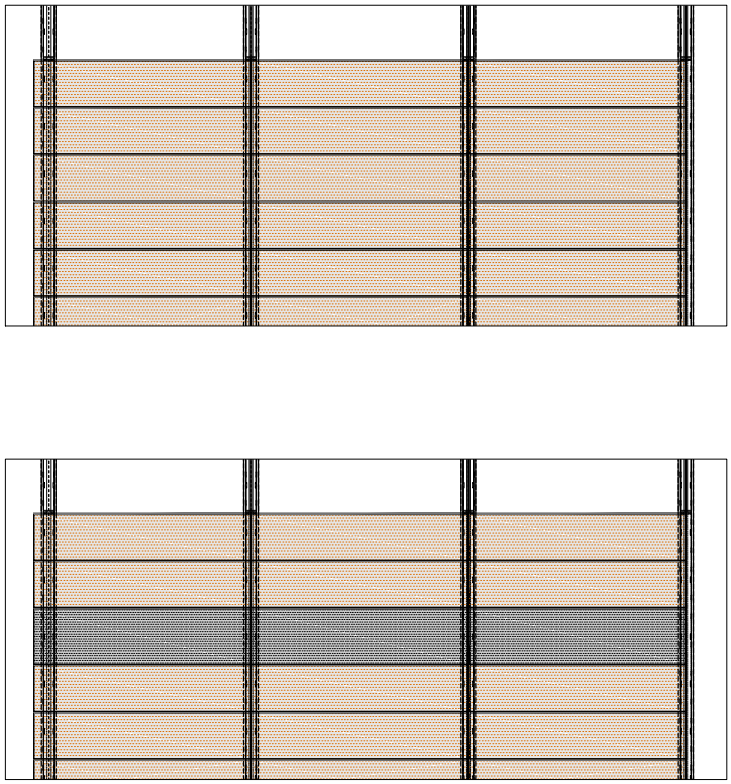
With several carrier rails on top of each other, their total length and the distance between the recoveries of two adjacent rails must not exceed 2.80 m.

Recoveries and slides relating in vertical primary substructure

"*TONALITY*®"-Clay tile facade
Adaptive system (ADS)
Mounting pattern
(vertical primary substructure)

ANo. ADS 100-04/1

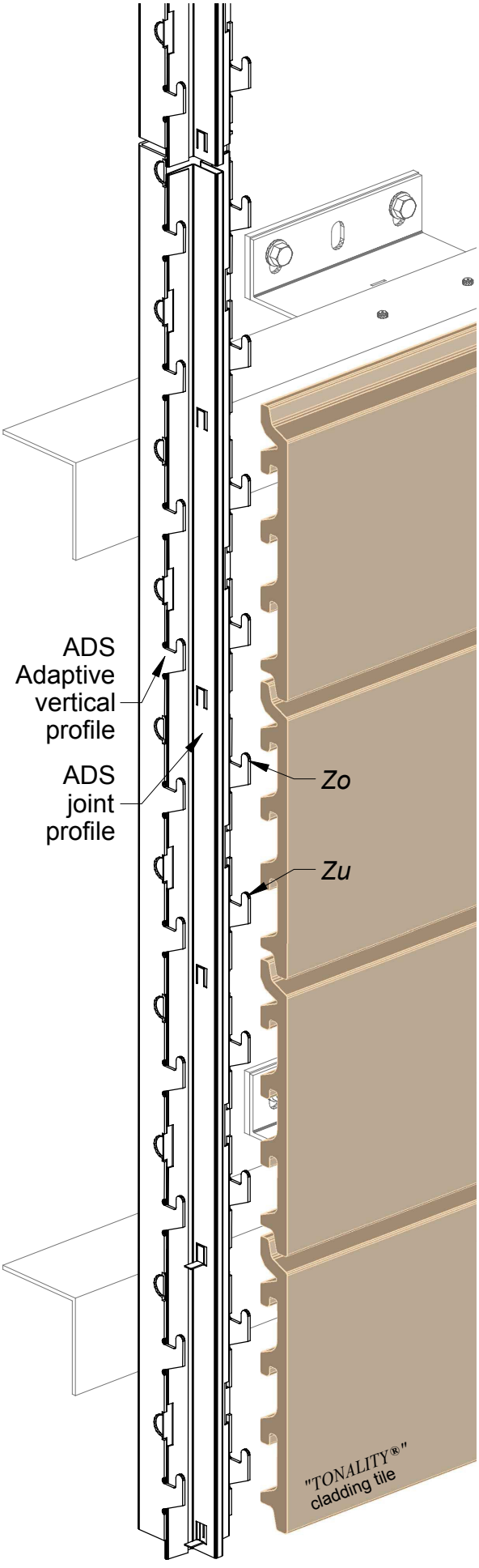


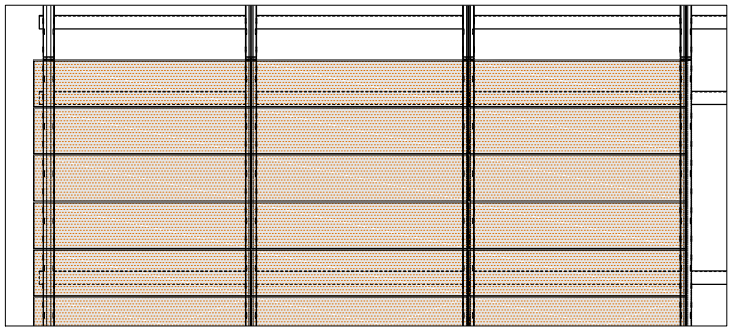


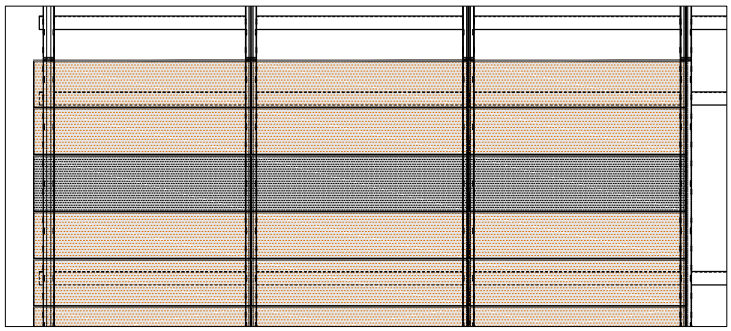
Mounting Pattern

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Mounting pattern
(horiz. primary substructure)

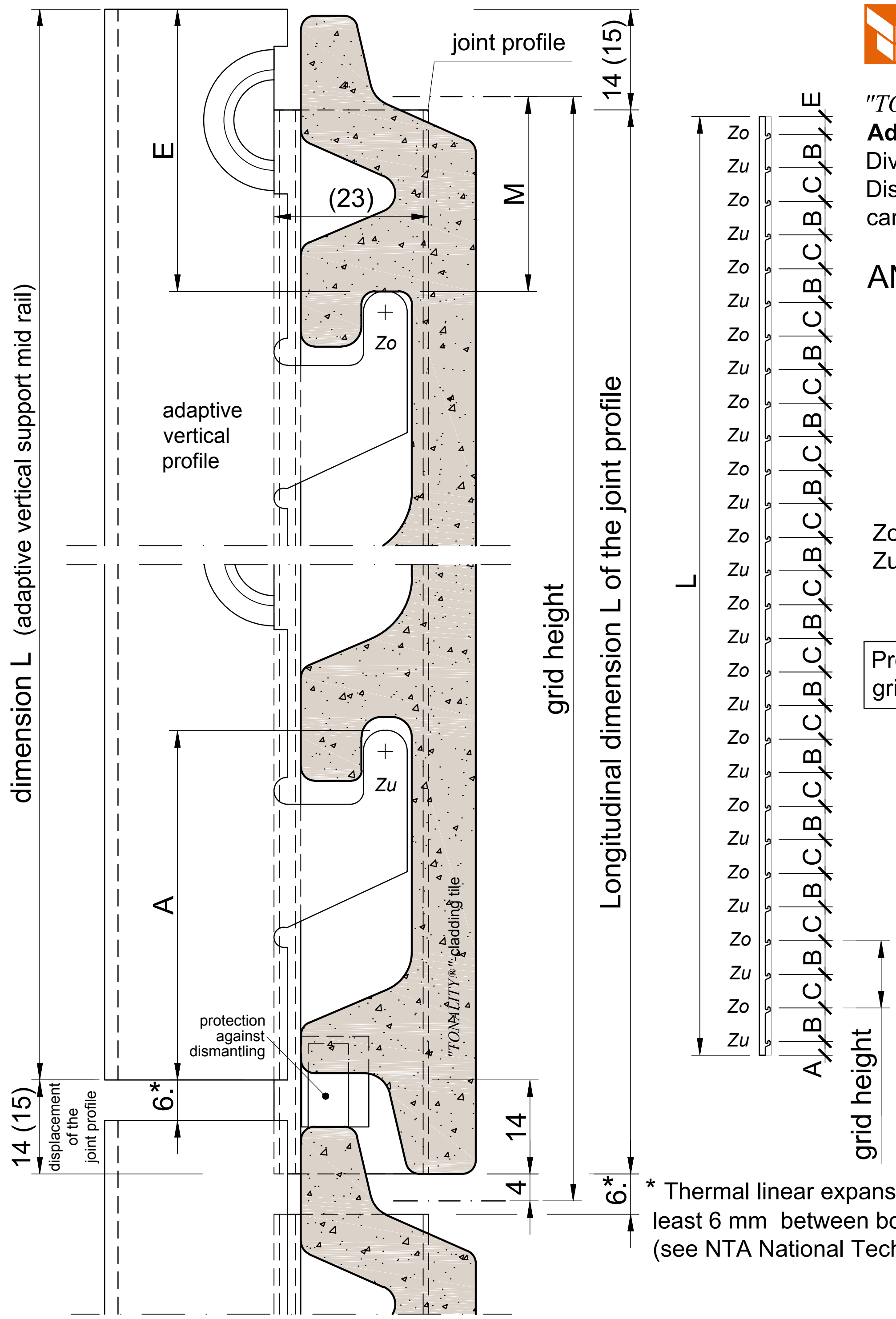
ANo. ADS 100-04/2







Mounting Pattern



"TONALITY®"-Clay tile facade
Adaptive System (ADS)
Division of replacements
Displacement of joint profiles
carrier profiles

ANo. ADS 100-05

Zo: Tile inset upside
Zu: Tile inset downward

Profile length = Number of grids minus 6 mm

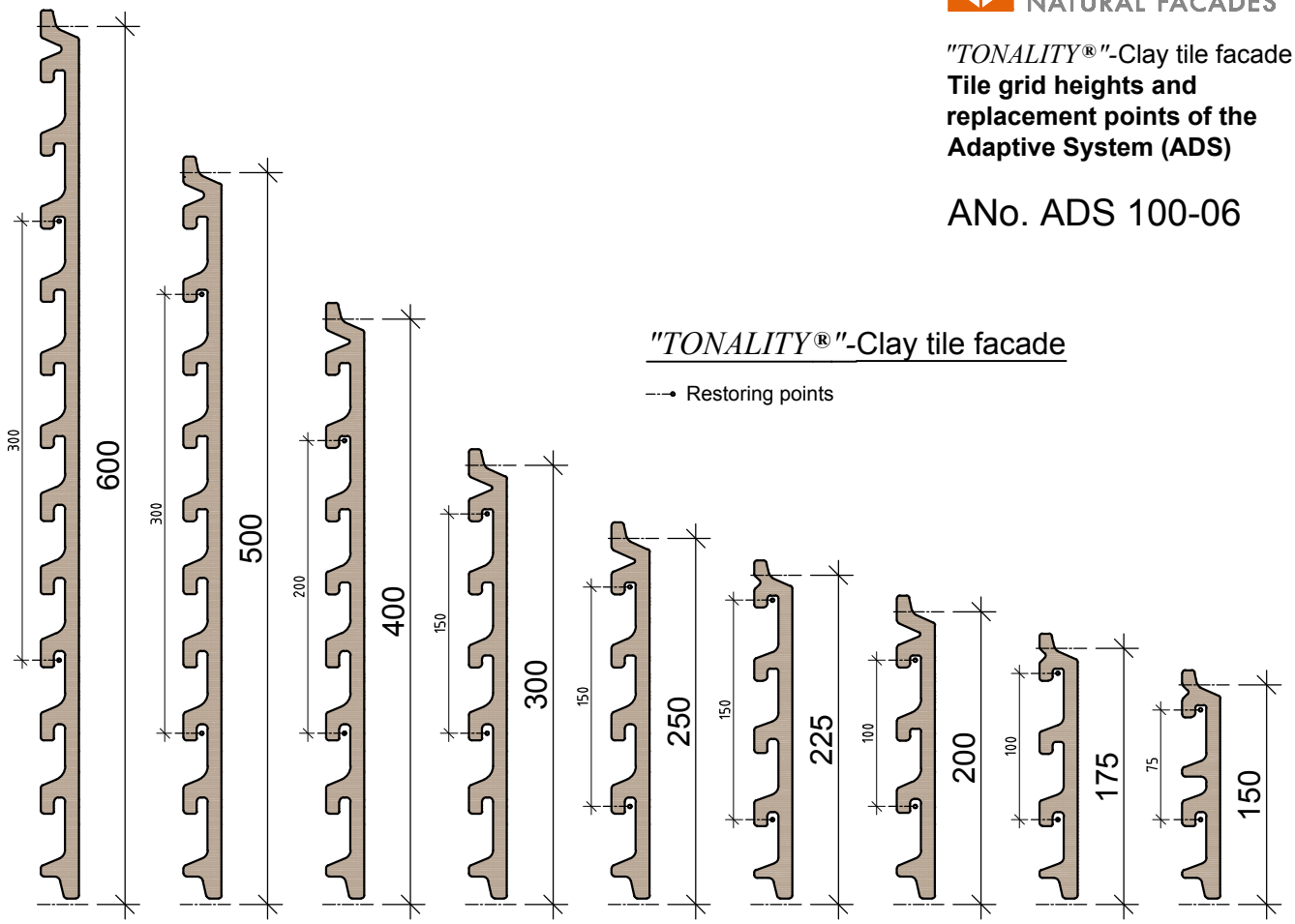
* Thermal linear expansion requires a gap of at least 6 mm between both 2 adjacent tiles and rails (see NTA National Technical Approval).

Grid height	No. of Grids / Rail	Dim. L	Dim. A	Dim. B	Dim. C	Dim. E	Dim. M
150	18	2694	43	75	75	26	14
175	16	2794	43	100	75	26	14
200	14	2794	52	100	100	42	30
225	12	2694	43	150	75	26	14
250	11	2744	52	150	100	42	30
300	9	2694	102	150	150	42	30
400	7	2794	102	200	200	92	80
500	5	2494	102	300	200	92	80
600	4	2394	152	300	300	142	130

Division of Replacements

"TONALITY®"-Clay tile facade
Tile grid heights and replacement points of the Adaptive System (ADS)

ANo. ADS 100-06



Intermediate sizes and bigger dimensions on request, if technically feasible.

Grid height / length ratio (maximum)

150 x 900	400 x 1.600
175 x 900	
200 x 1.600	500 x 1.600
225 x 1.600	
250 x 1.600	600 x 1.600
300 x 1.600	

Tile grid heights

Static reference notes:

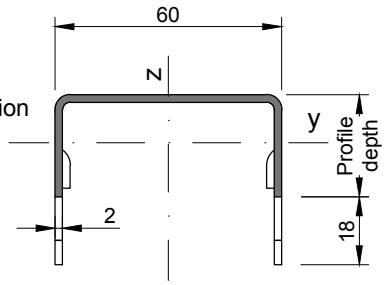
1) The client has sole responsibility for the standard safety reference note *adaptive* rails in relation to the project.

2) Elasticity index EN AW-5083 H24: E= 70.000 N/mm² (compare with DIN EN 1999-1-1)

3) Cross-sectional values of the *adaptive* vertical profiles:

Profile depth	**17 mm**	**27 mm**	**37 mm**
Cross-sectional area	1,72 cm²	2,12 cm²	2,52 cm²
Moment of inertia	I_y = 0,28 cm⁴ I_z = 7,97 cm⁴	I_y = 1,22 cm⁴ I_z = 11,34 cm⁴	I_y = 3,13 cm⁴ I_z = 14,71 cm⁴
Section modulus	W_{yo} = 0,24 cm³ W_{yu} = 0,86 cm³ W_{yz} = 2,66 cm³	W_{yo} = 0,66 cm³ W_{yu} = 1,90 cm³ W_{yz} = 3,78 cm³	W_{yo} = 1,26 cm³ W_{yu} = 3,08 cm³ W_{yz} = 4,90 cm³

Diagram:
Channel section



For vertical section see detail ADS 06

TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Illustration of system depths

ANo. ADS 100-07
Scale: 1:1 with DIN A3

This depth equals that of CLS profiles; suitable for CLS standard profiles such as corner and end profiles.

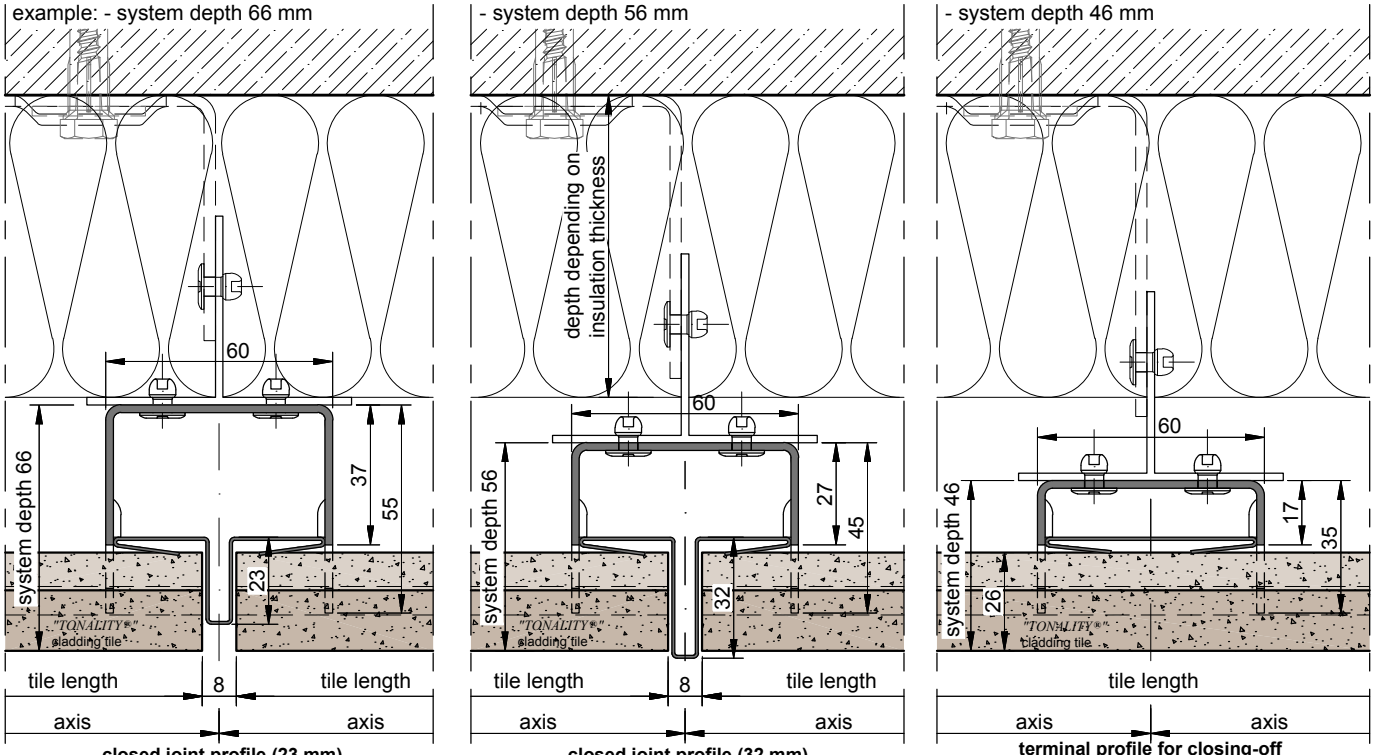
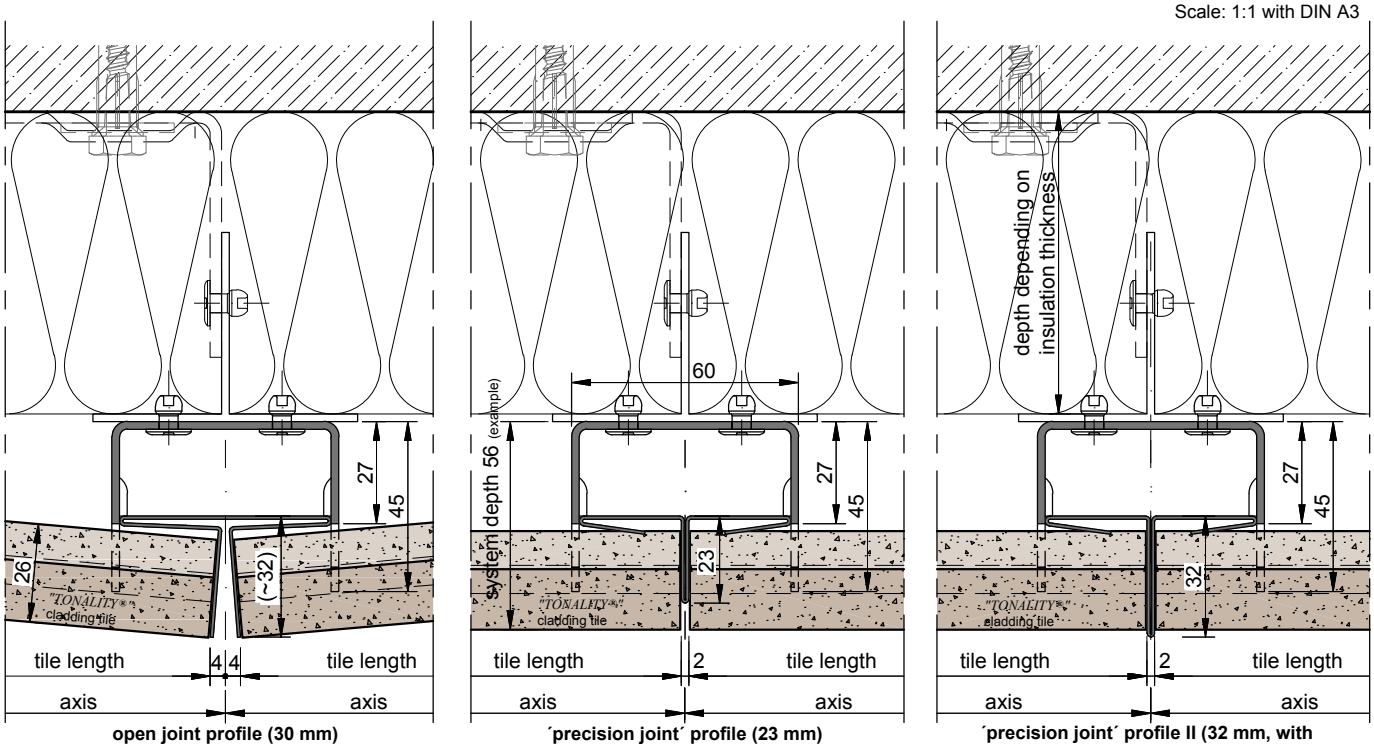


ILLUSTRATION OF SYSTEM DEPTHS

TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Illustration of joint profiles

ANo. ADS 100-08
Scale: 1:1 with DIN A3

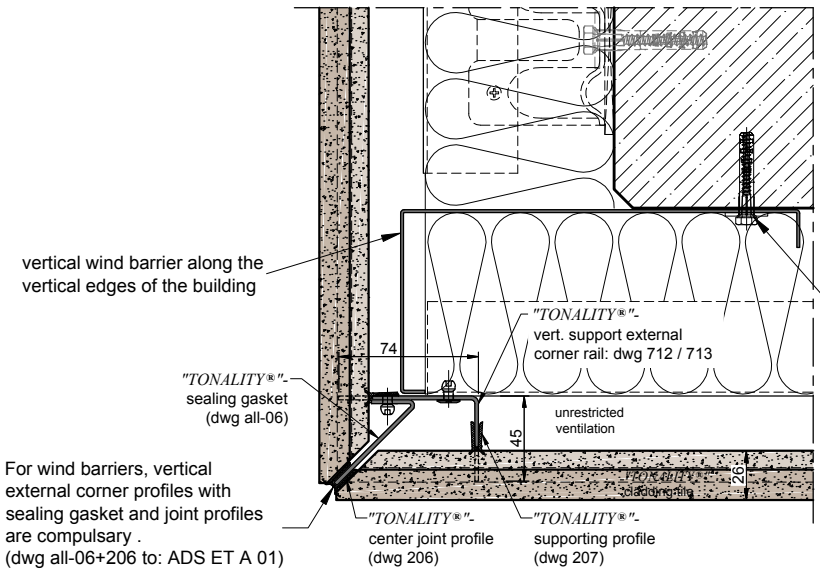


Due to manufacturing tolerances, the open profiles may not be flush with the tile surface.

ILLUSTRATION OF JOINT PROFILES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Exemplary application of the wind barrier

ANo. ADS 100-22
Scale: 1:2 with DIN A3

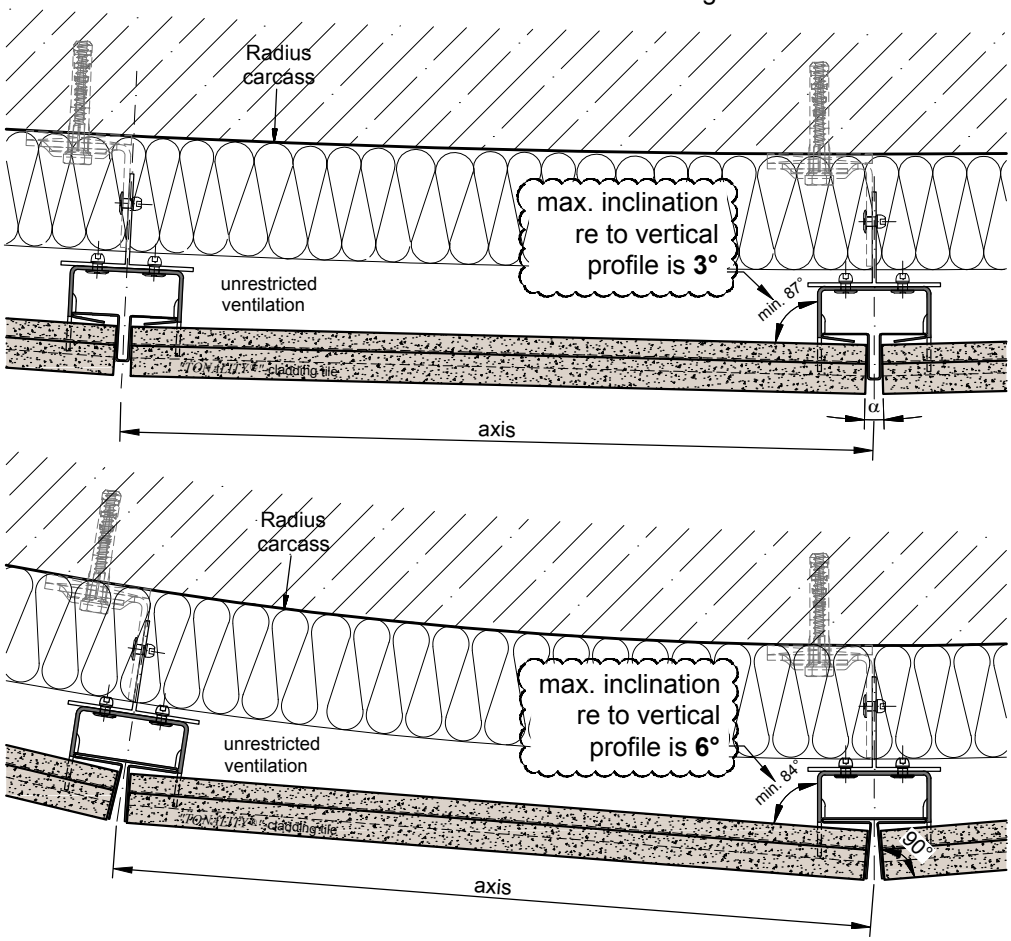


Wind barrier as per DIN 1055 for wind loads, part 4

Plug fastened, depends on what type of plug is approved of. According to static requirements.

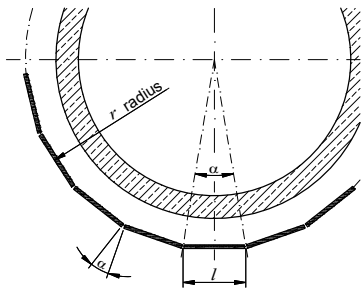
WIND BARRIER

TONALITY's recommendation for the cladding of curved walls:



"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Design for curved walls

ANo. ADS 100-23
Scale: 1:2 with DIN A3



Calculation formula:

$$\sin \frac{l}{r} = \alpha$$

l = length / axis
r = outside radius of cladding
a = interfacial angle

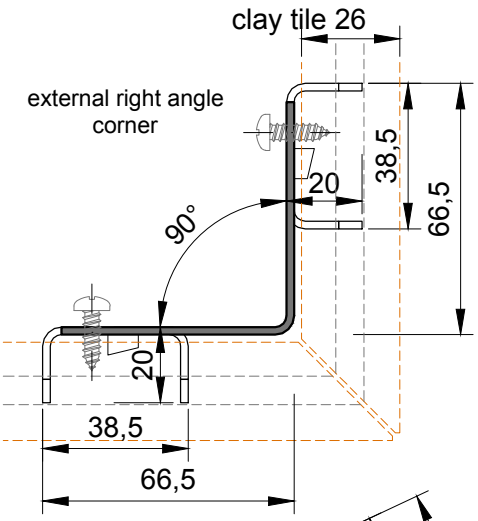
Example:

l = axis 450mm
r = 5.150 mm

$$\sin \frac{450}{5150} = 5{,}01°$$

a = 5,01°
up to **6° = closed joint profile** can be used
6° - 12° = choose **open joint profile**

CURVED WALLS



"TONALITY®"
soffit clamp for external corners
20 x 66 x 66 x 20 mm

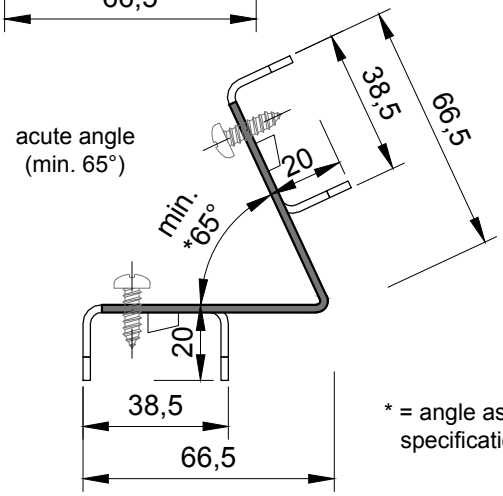
Mat.: AlMg3 H22
mill finish

TONALITY NATURAL FACADES

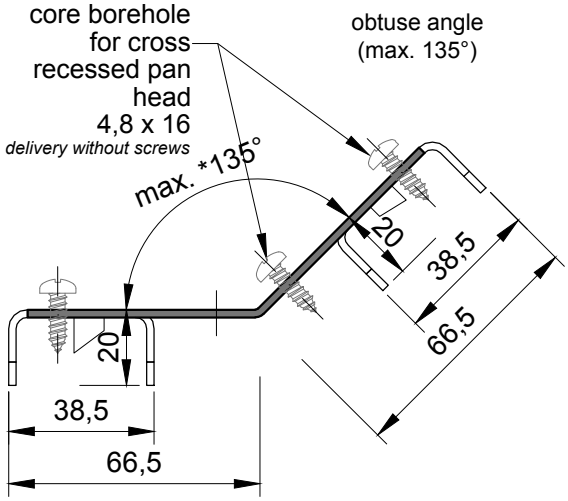
"TONALITY®"-Clay tile facade

Details of soffit clamp

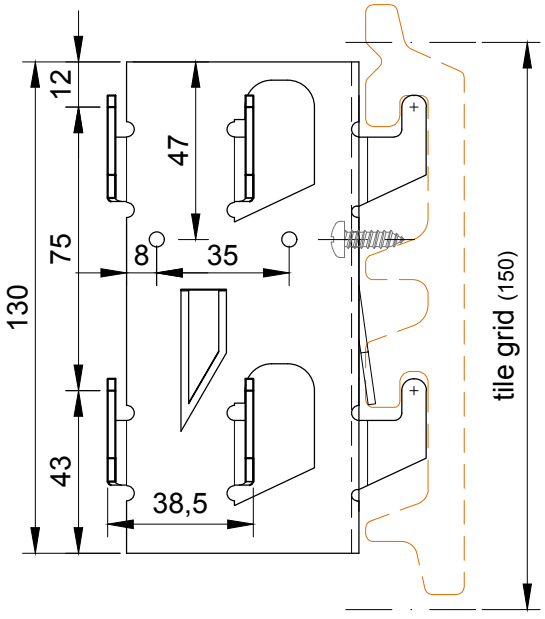
ANo. ADS 100-27
scale 1:2 with DIN-A4



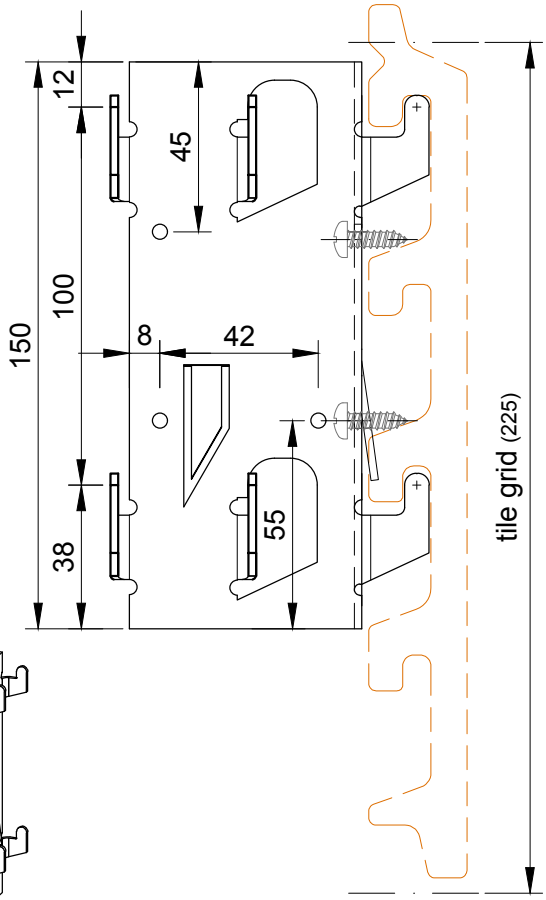
* = angle as per customer specification

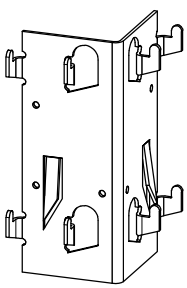


For "TONALITY®" clay tile heights:
150



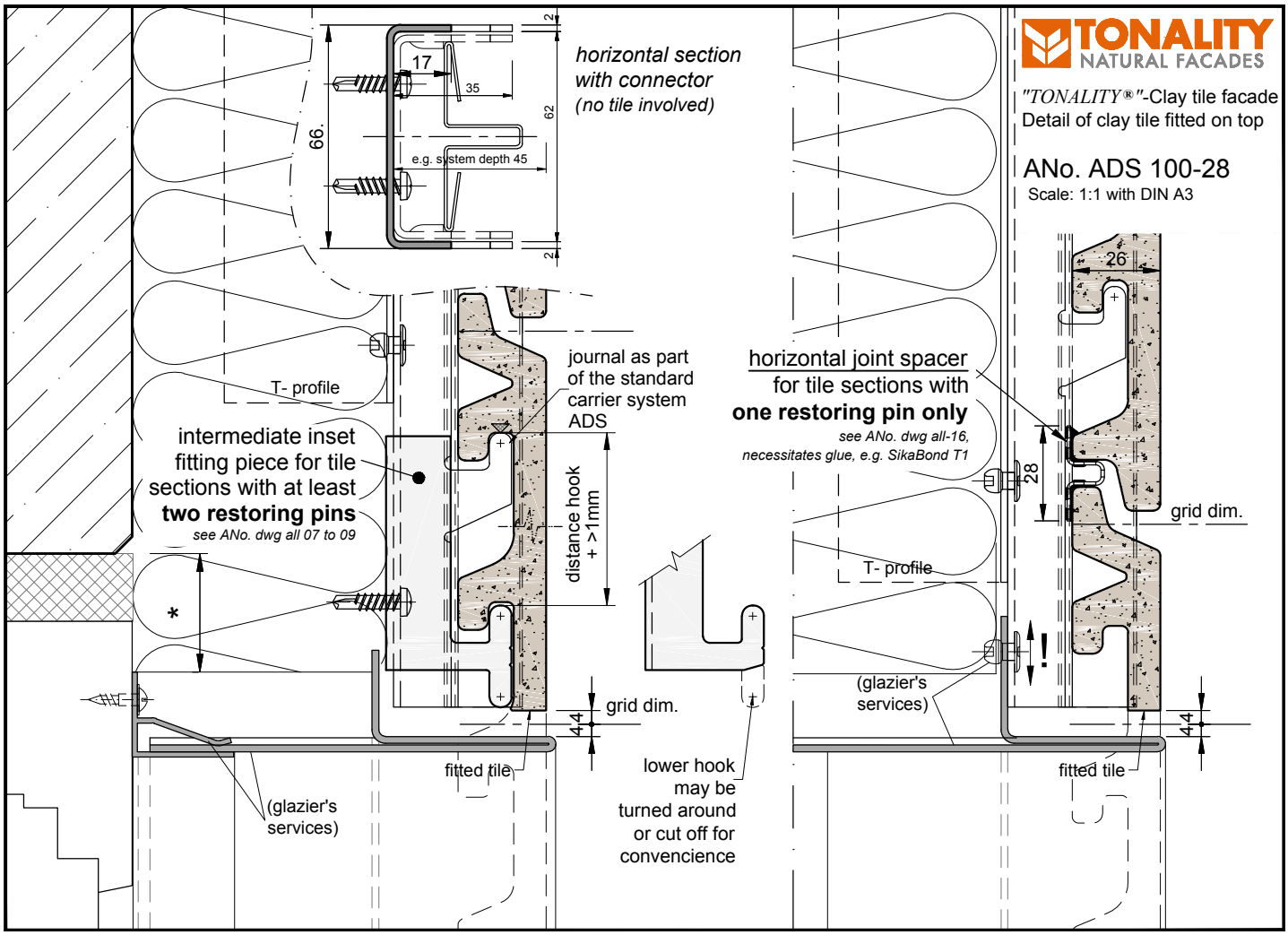
For "TONALITY®" clay tile heights:
175 + 200 + 225 + 250 + 300 - 600





For placing purchase orders we recommend our ´Order forms´

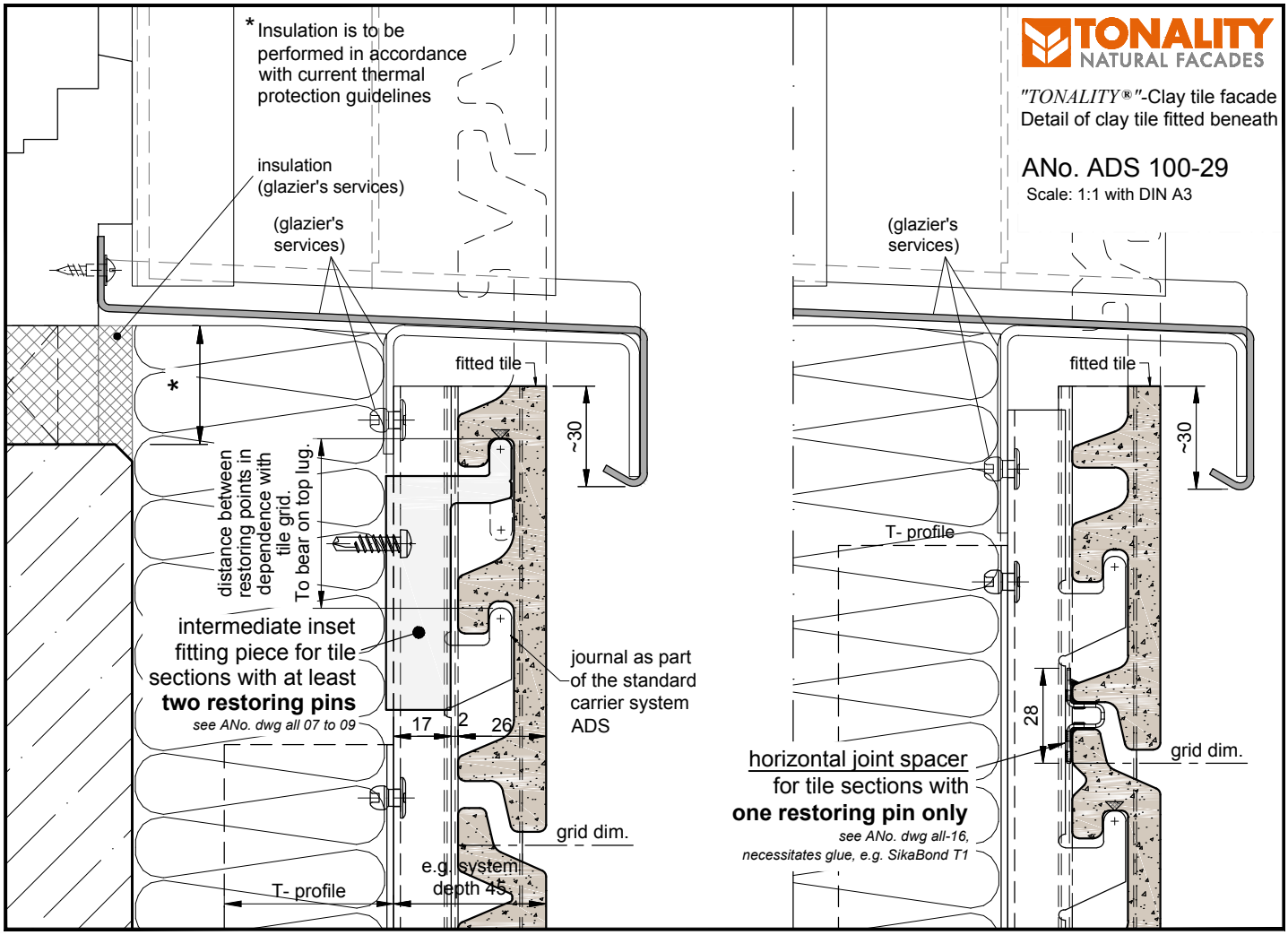
Delivery without screws.
Manual assembly required.



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Detail of clay tile fitted on top

ANo. ADS 100-28
Scale: 1:1 with DIN A3



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Detail of clay tile fitted beneath

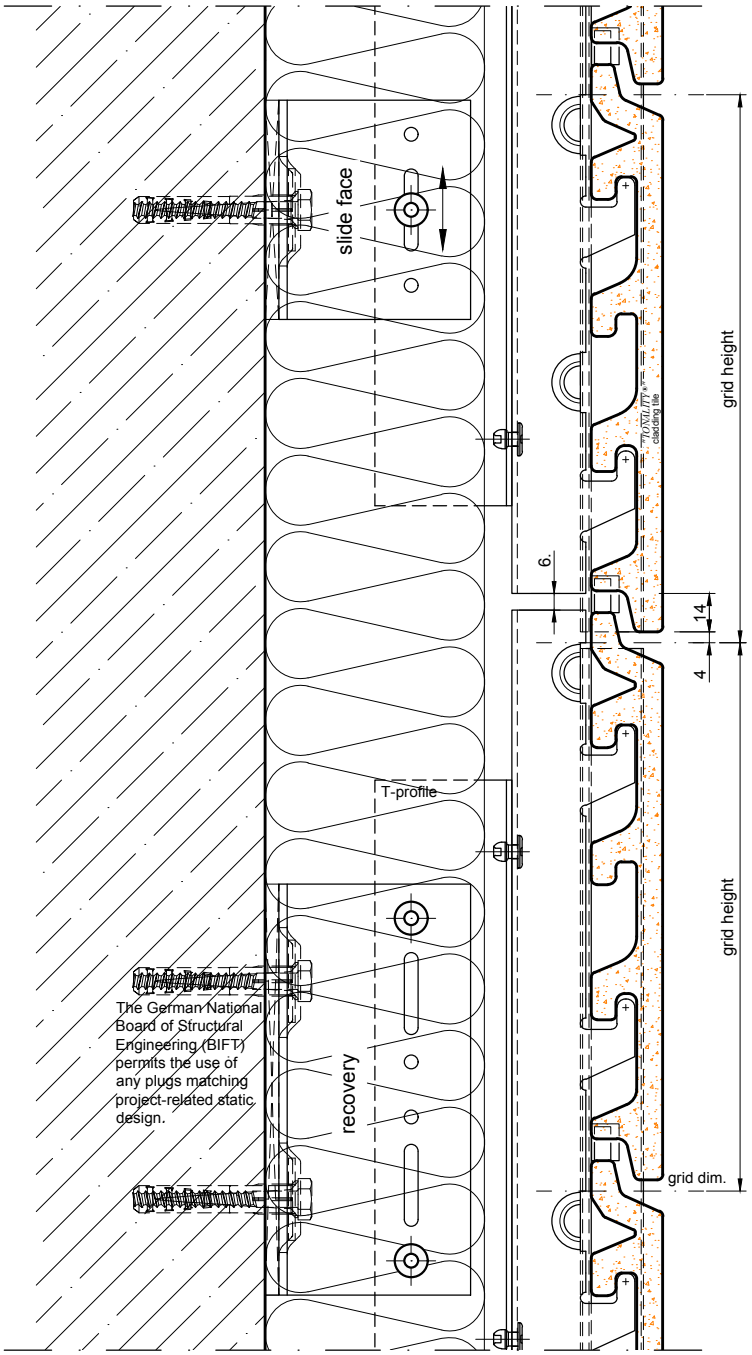
ANo. ADS 100-29
Scale: 1:1 with DIN A3

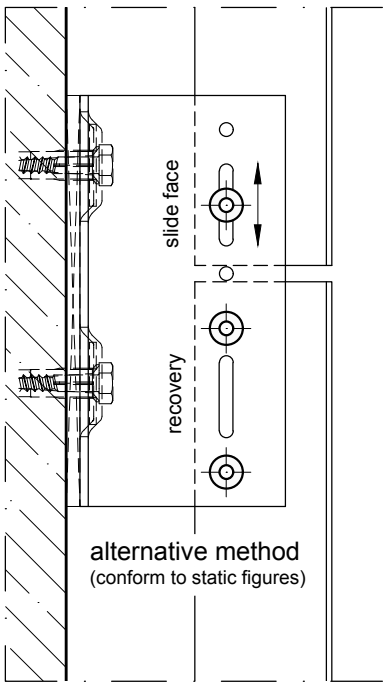
TONALITY NATURAL FACADES

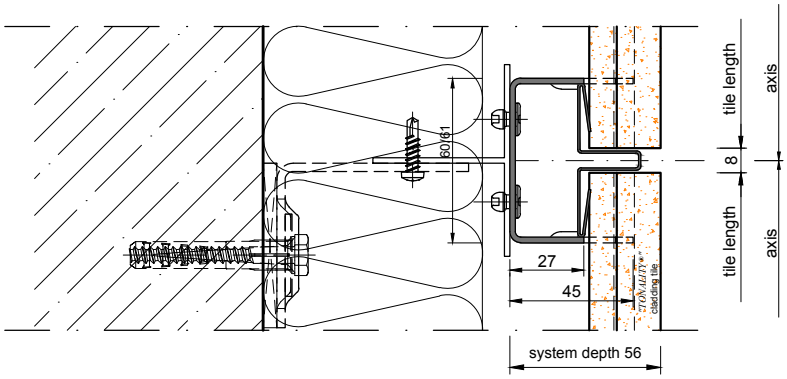
"*TONALITY®*"-Clay tile facade
Adaptive system (ADS)
vertical section of fixed / floating point onto vertical substructure

ANo. ADS 100-19

Scale: 1:2 with DIN A3







TYPICAL DETAIL 1

TONALITY NATURAL FACADES

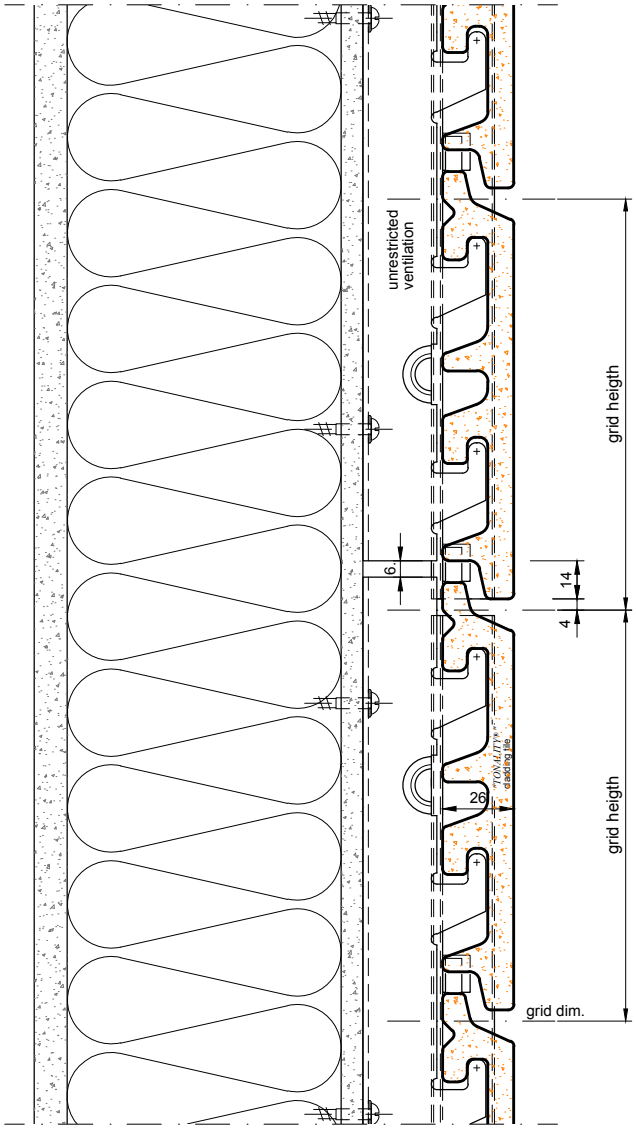
"TONALITY®"-Clay tile facade

Adaptive system (ADS)
Vertical section of fixed / floating point onto vertical **wooden primary substructure**

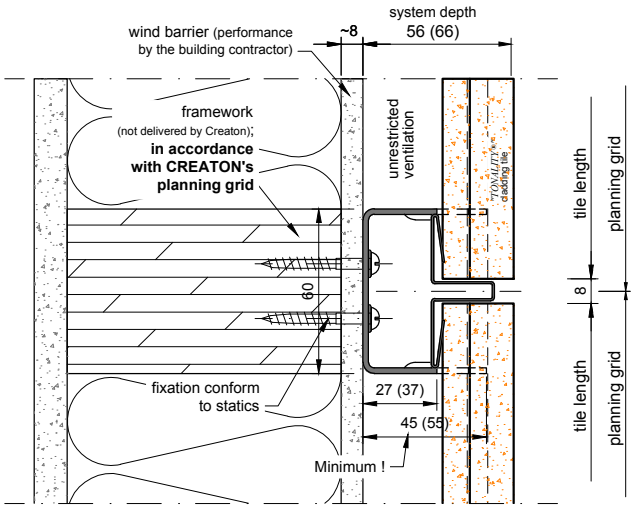
ANo. ADS 100-19.1

scale 1:2 with DIN-A3

vertical section



horizontal section



TYPICAL DETAIL 1.1

TONALITY NATURAL FACADES

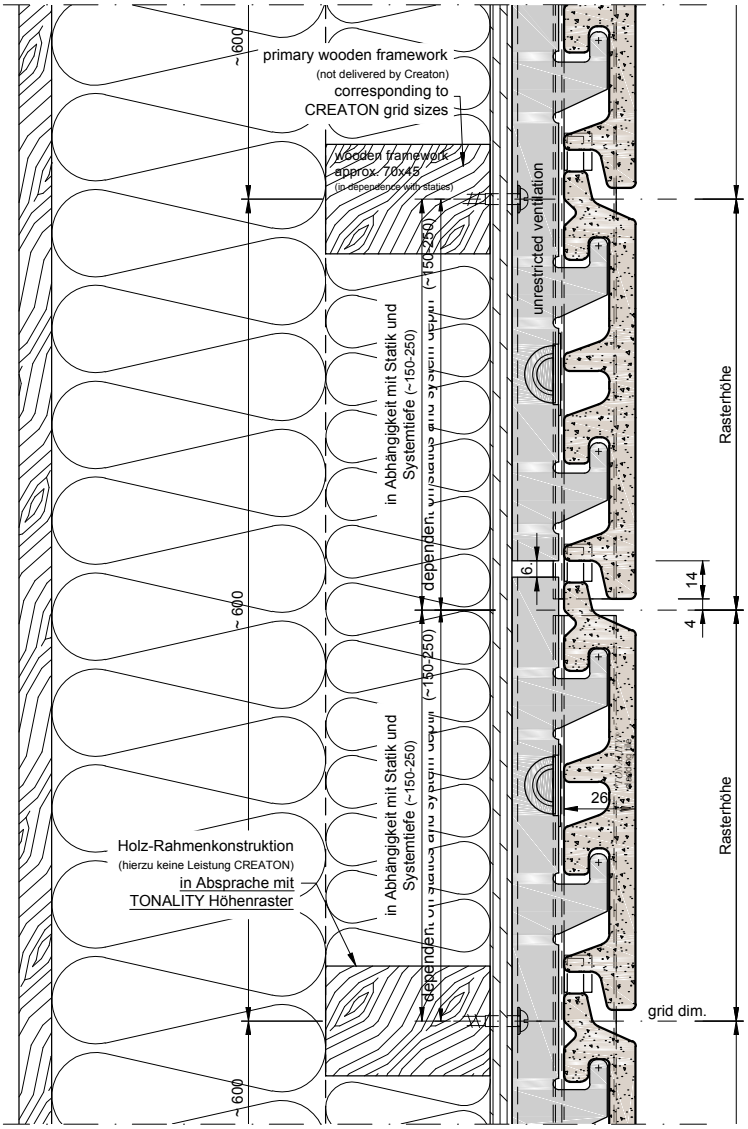
"TONALITY®"-Clay tile facade

Adaptive system (ADS)
Vertical section of fixed / floating point onto horizontal **wooden primary substructure**

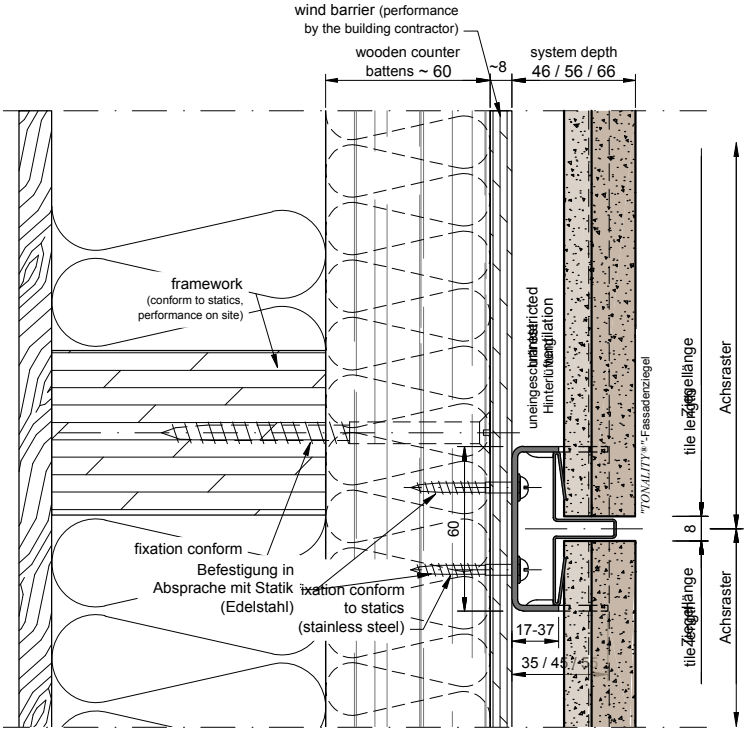
ANo. ADS 100-19.2

scale 1:2 with DIN-A3

vertical section



horizontal section

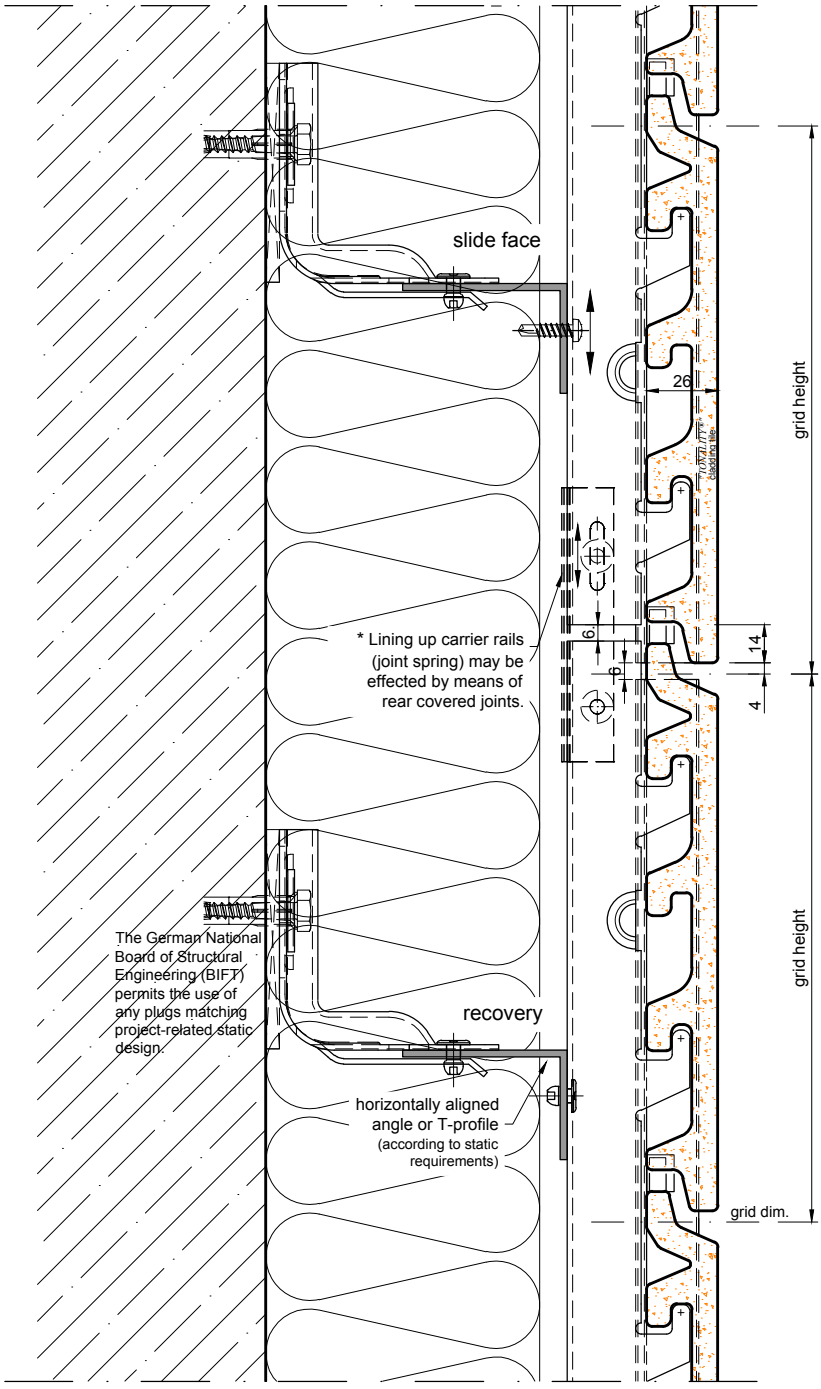


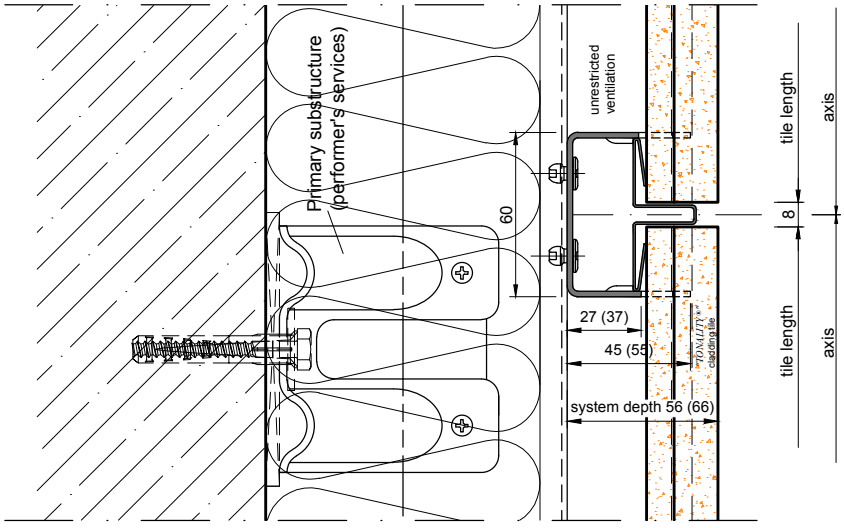
TYPICAL DETAIL 1.2

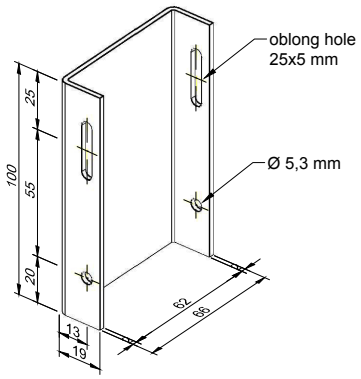
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
vertical section of fixed / floating point onto horizontal substructure

ANo. ADS 100-31
Scale: 1:2 with DIN A3

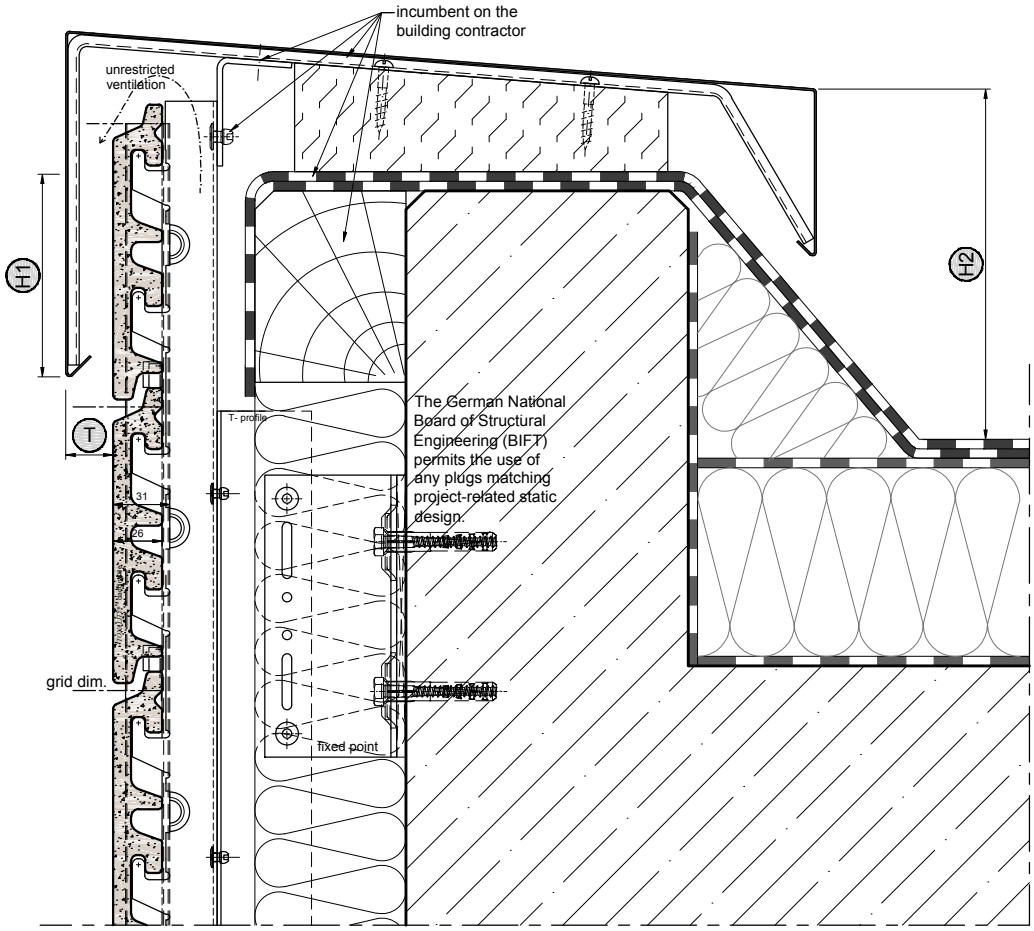






"TONALITY®"-joint rear cover 19x66x19x2 mm for all system depths
see ANo.: dwg all-10 (at ADS ET A 03)

TYPICAL DETAIL 1.3



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical section of roof parapet

ANo. ADS 100-20
Scale: 1:2 with DIN A3

Design in accordance with the regulations for pitched roofs:

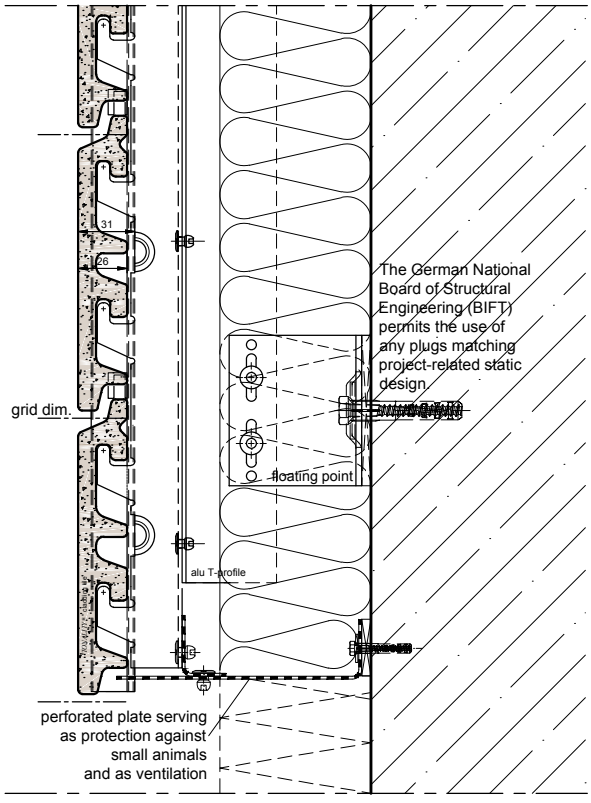
H1 External vertical lateral rails serving as cover or closing-off should overlap the top edge of either plaster or cladding tiles.

Building height:
up to 8 m: min. 50 mm
over 8 up to 20 m: min. 80 mm
over 20 m: min. 100 mm

H2 Recommended closing-off height for roofs above ground:
for pitched roof areas ≤ 5° = ~ 100 mm
for pitched roof areas > 5° = ~ 50 mm
above any covering or fill-up grit.

T Min. drainage area of projecting covers or closing-off rails is 20 mm.

TYPICAL DETAIL 3



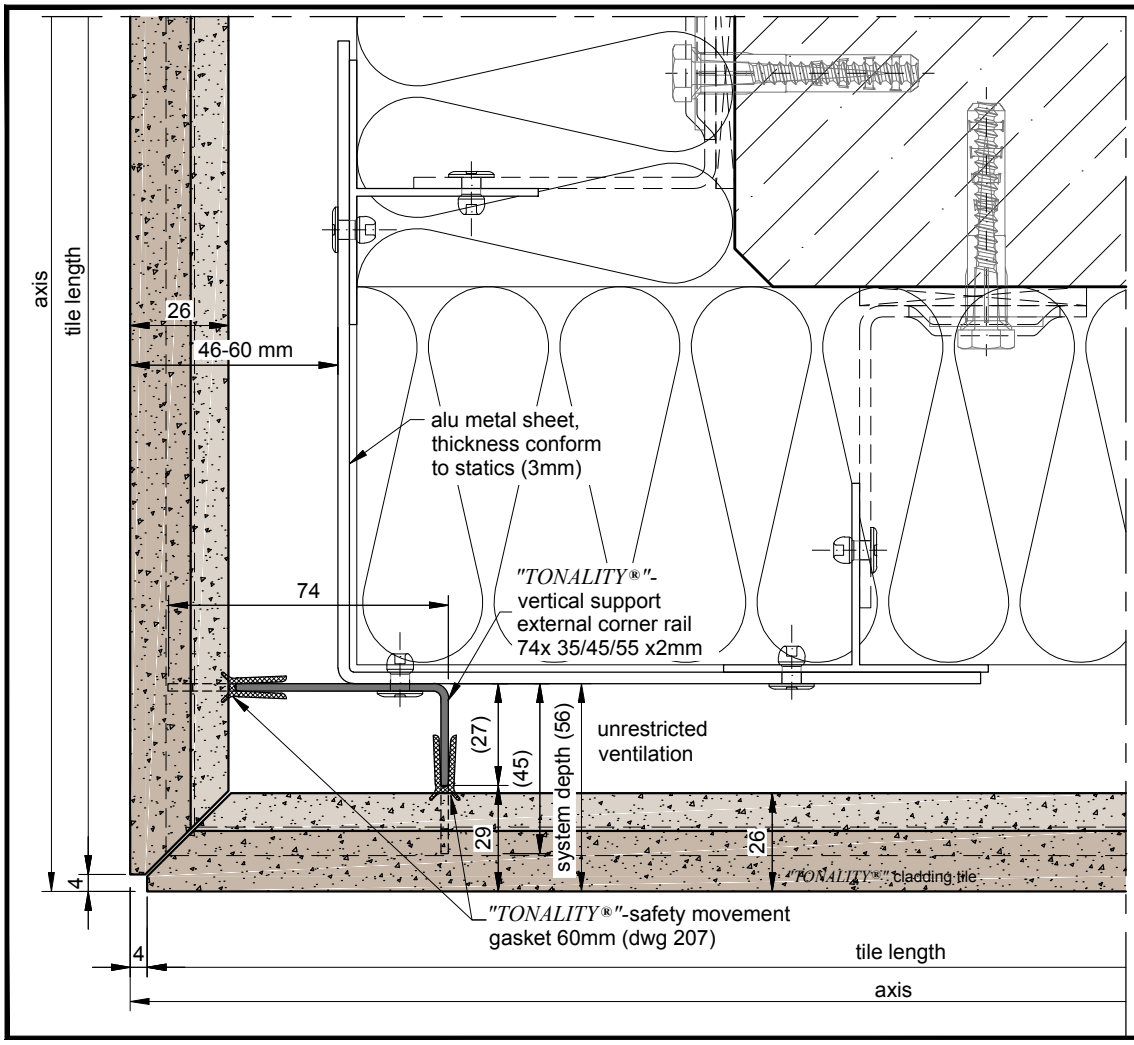
Bottom wall sealing and wall insulation are not illustrated. They belong to the planner´s field of responsibility.

TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Bottom end

ANo. ADS 100-21
Scale: 1:1 with DIN A3

TYPICAL DETAIL 2



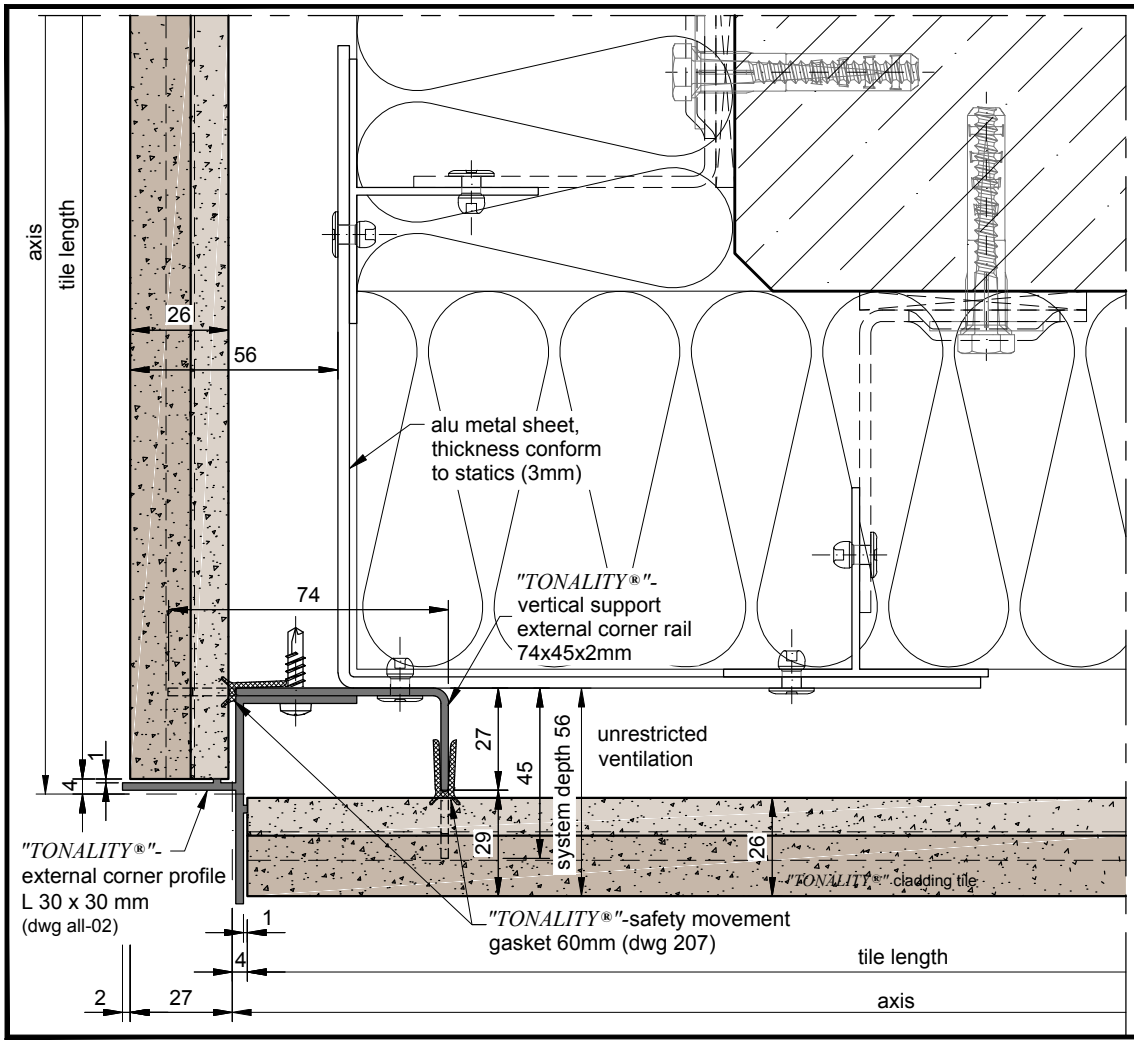
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of external corner

ANo. ADS 100-09
Scale: 1:1 with DIN A3

External corner, 90° angle with mitre cut and vertical primary substructure

TYPICAL DETAIL 4



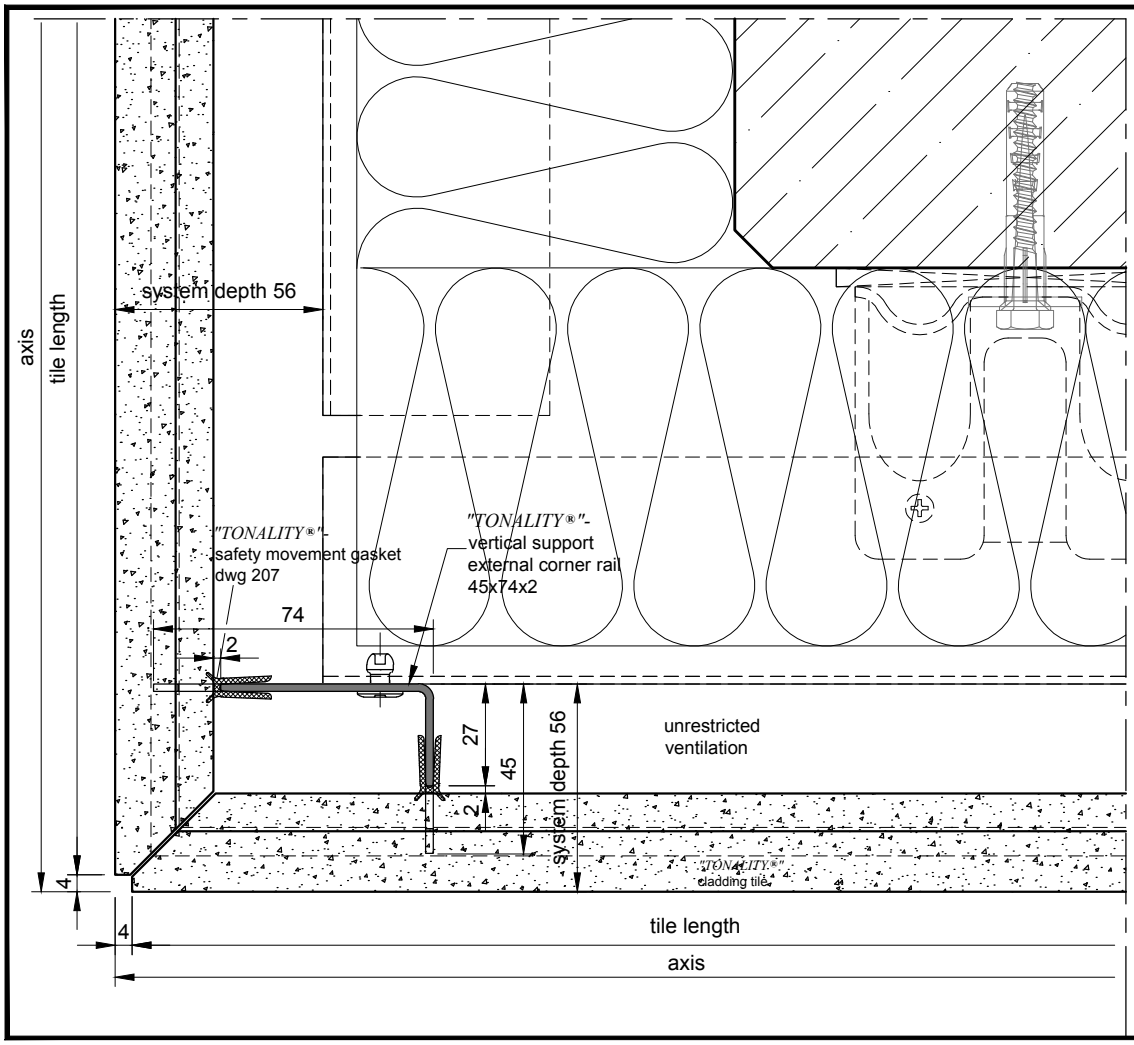
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of external corner

ANo. ADS 100-10
Scale: 1:1 with DIN A3

External corner, 90° angle with visible corner profile on vertical primary substructure

TYPICAL DETAIL 5



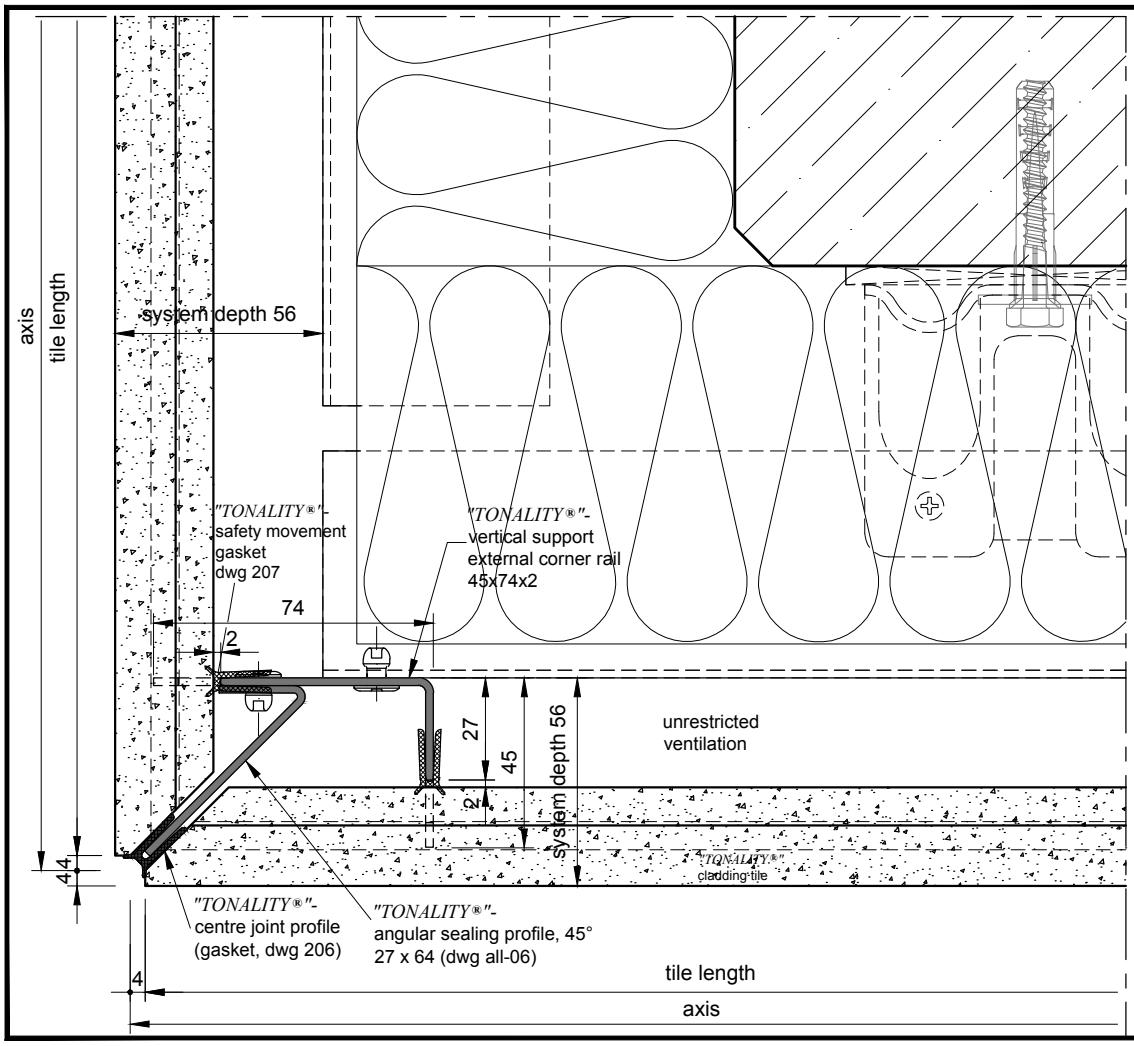
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of external corner

ANo. ADS 100-24
Scale: 1:1 with DIN A3

External corner, 90° angle with mitre cut and horizontal primary substructure

TYPICAL DETAIL 6



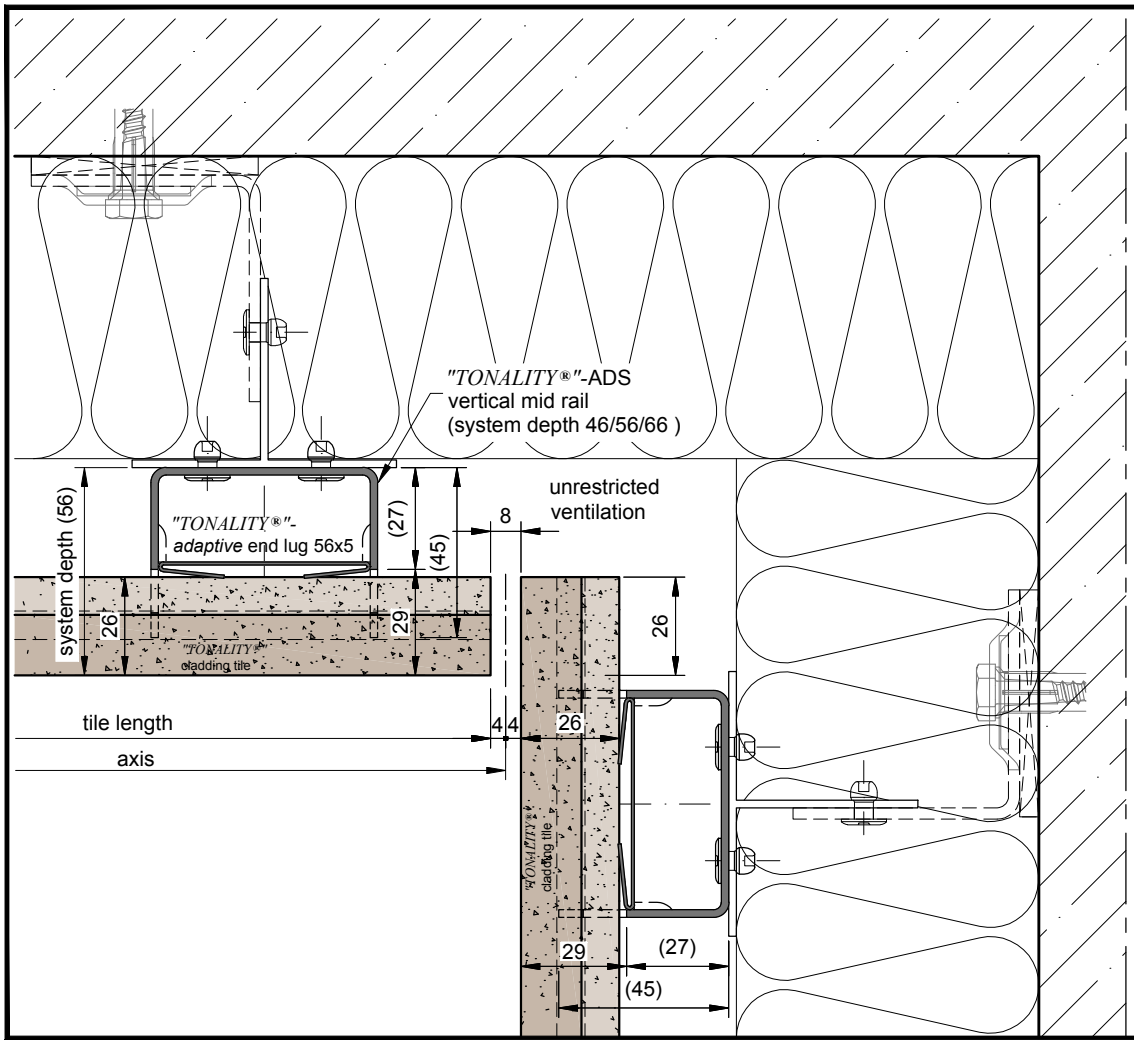
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of external corner

ANo. ADS 100-25
Scale: 1:1 with DIN A3

External corner, 90° angle with angular sealing profile, 45° angle, on horizontal primary substructure

TYPICAL DETAIL 7



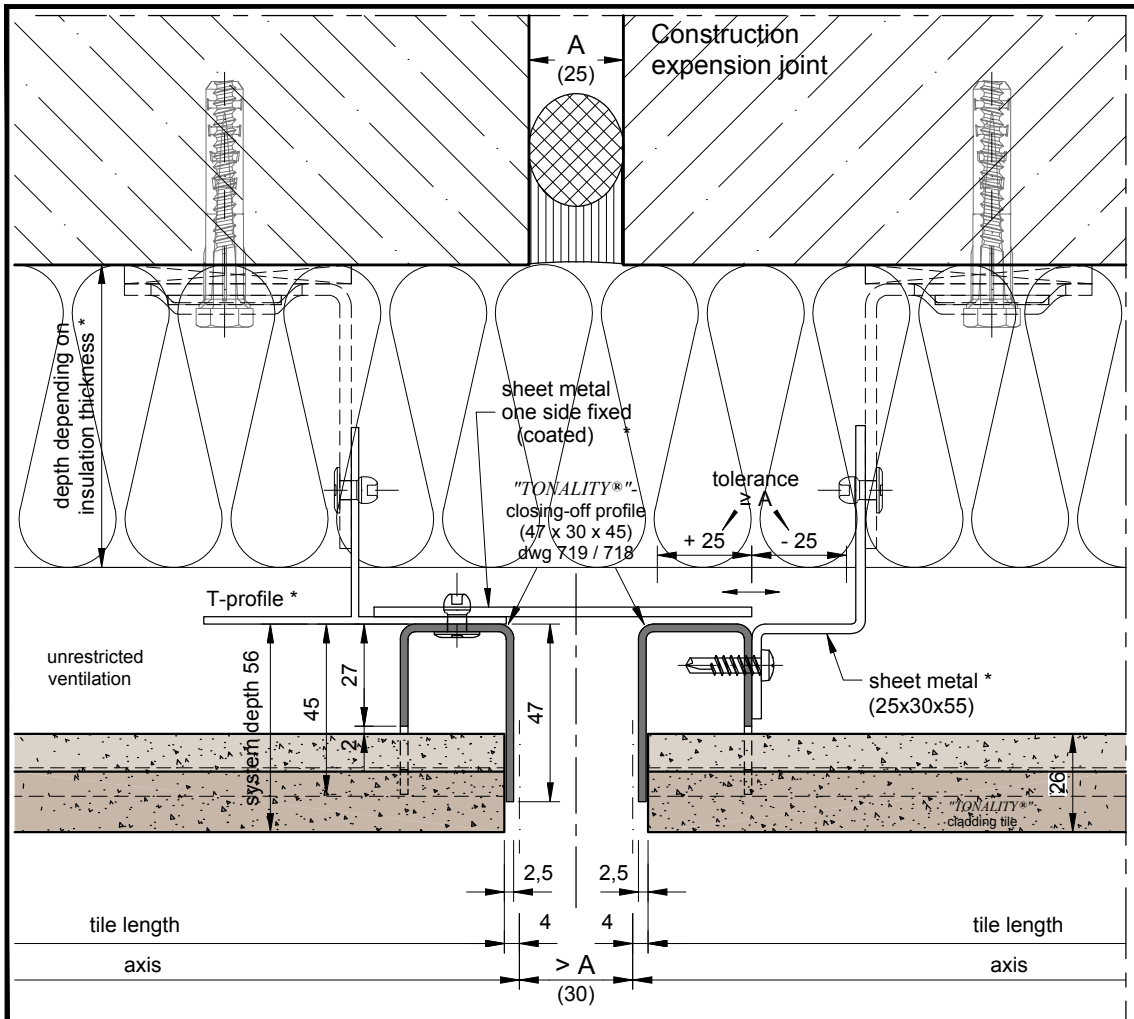
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of internal corner

ANo. ADS 100-11
Scale: 1:1 with DIN A3

Internal corner 90°

TYPICAL DETAIL 8



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section
expansion joint

ANo. ADS 100-32
Scale: 1:1 with DIN A3

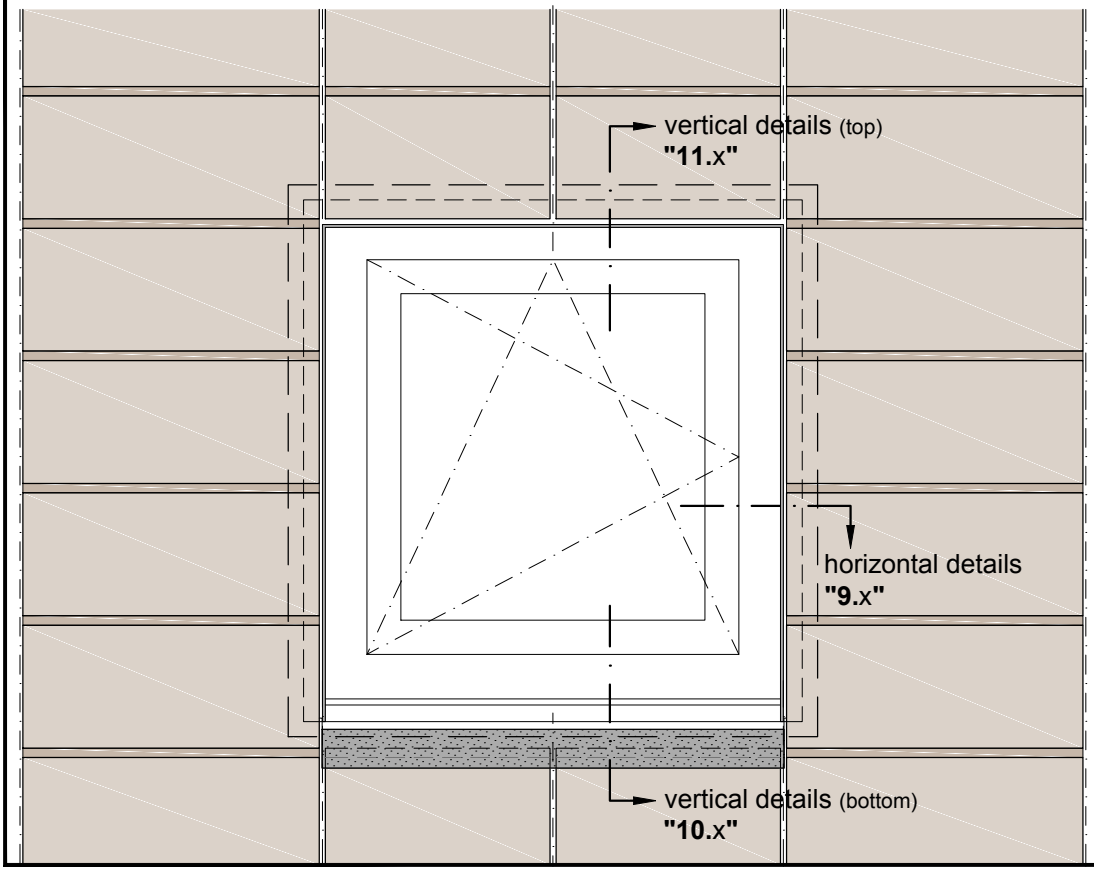
* = installer´s service

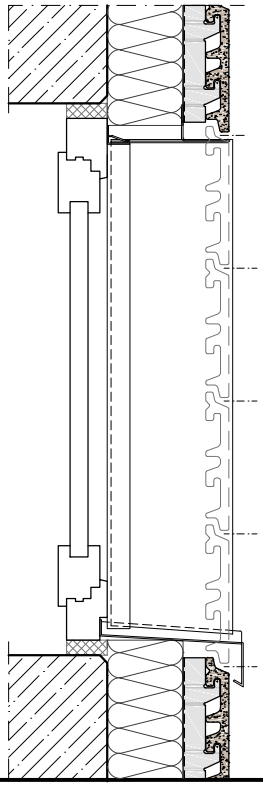
NEED SOLUTION

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Survey of window details

ANo. ADS 100-13

Scale: 1:5 with DIN A3



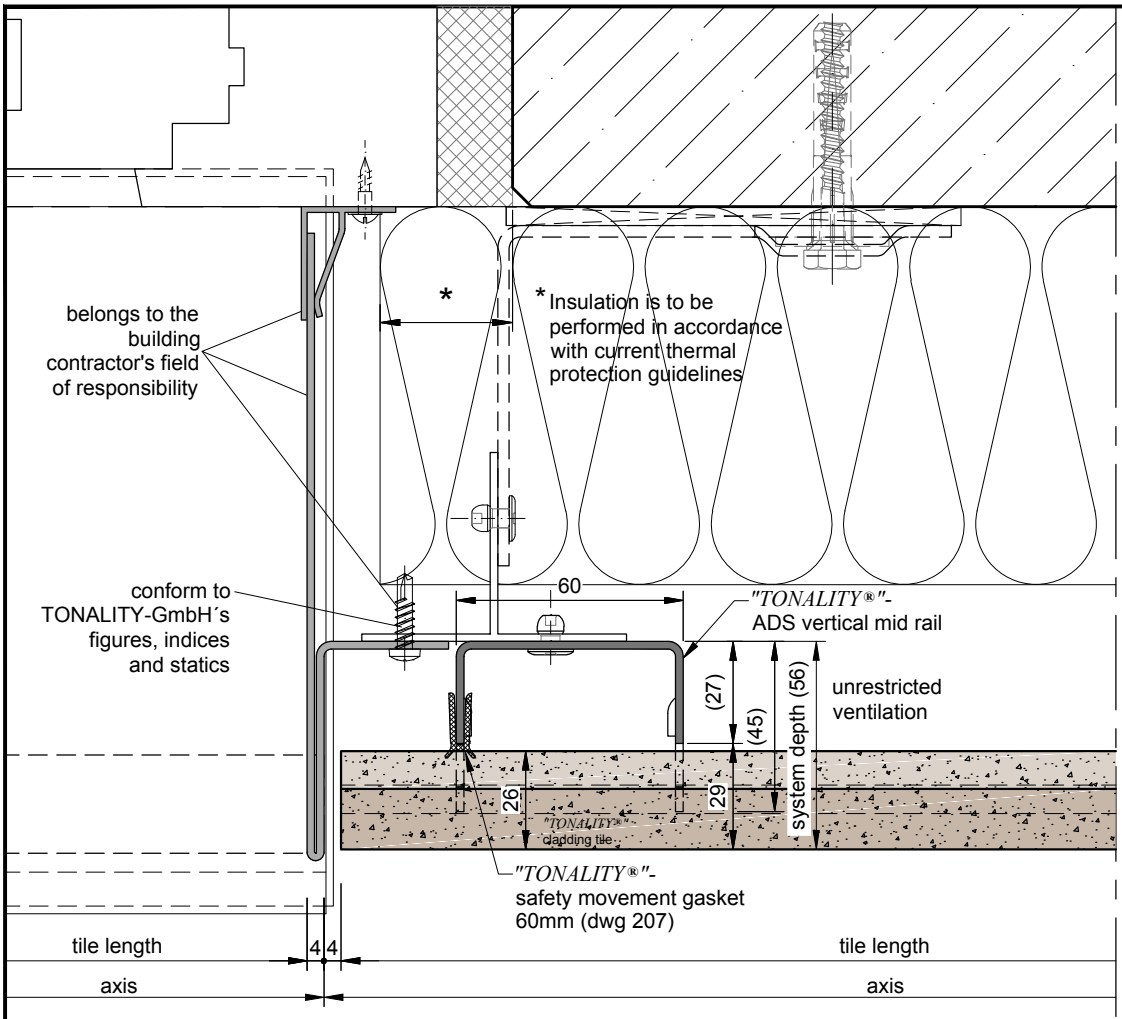


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of window mounted on vertical primary substructure

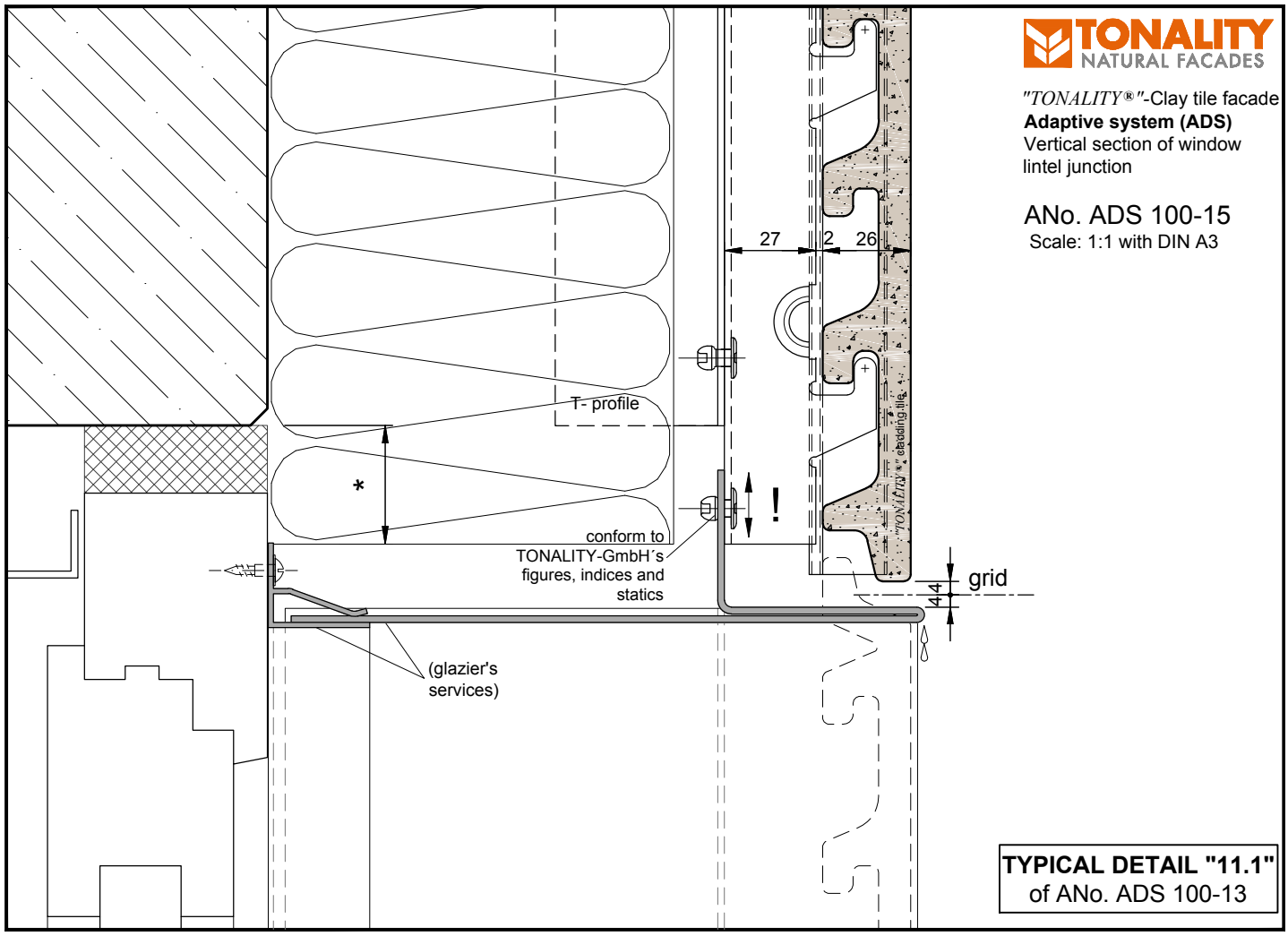
ANo. ADS 100-14

Scale: 1:1 with DIN A3



optionally
see also page ADS 32
(with Neoprene gasket)

TYPICAL DETAIL "9.1"
of ANo. ADS 100-13

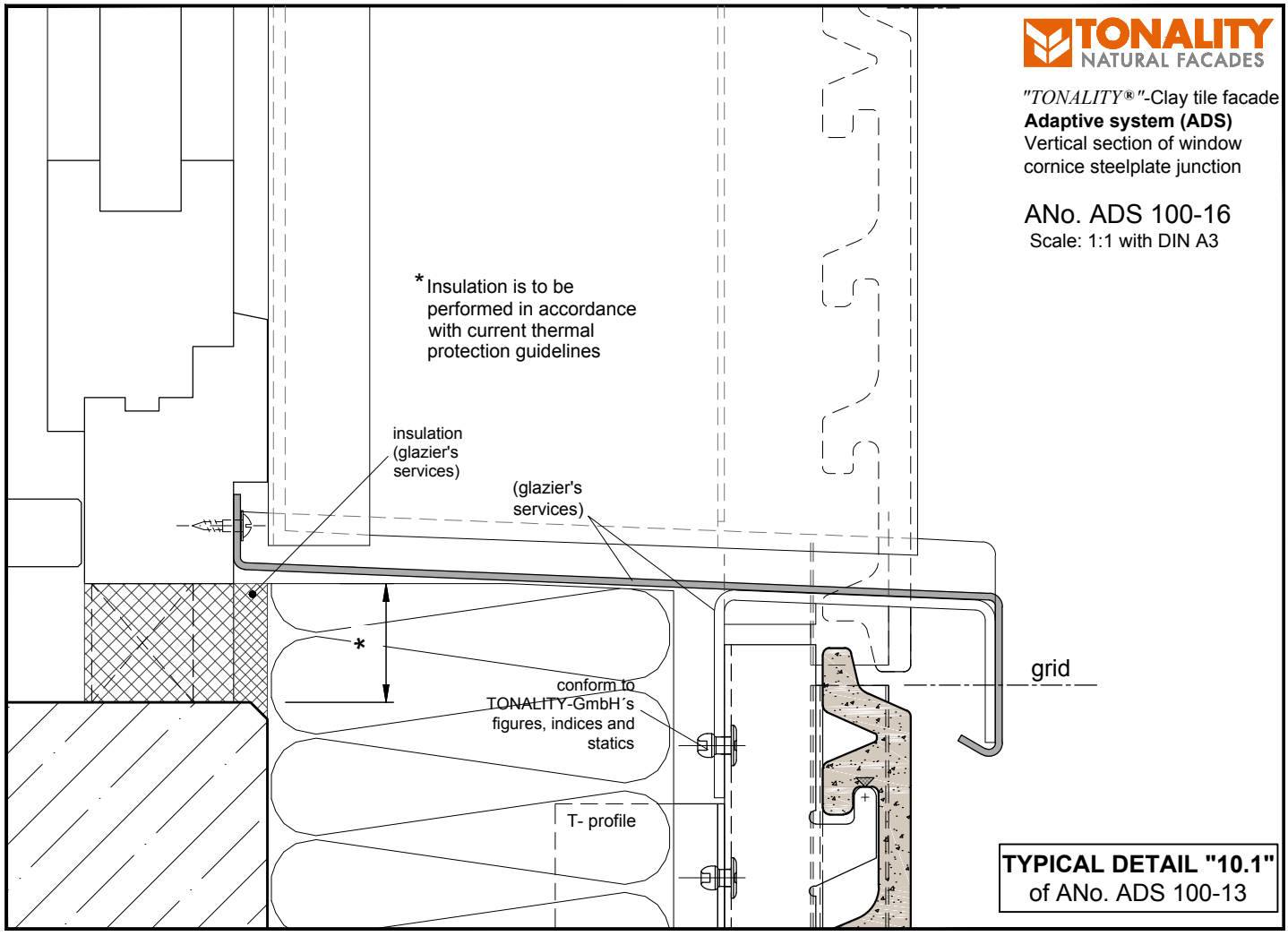


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical section of window
lintel junction

ANo. ADS 100-15
Scale: 1:1 with DIN A3

TYPICAL DETAIL "11.1"
of ANo. ADS 100-13

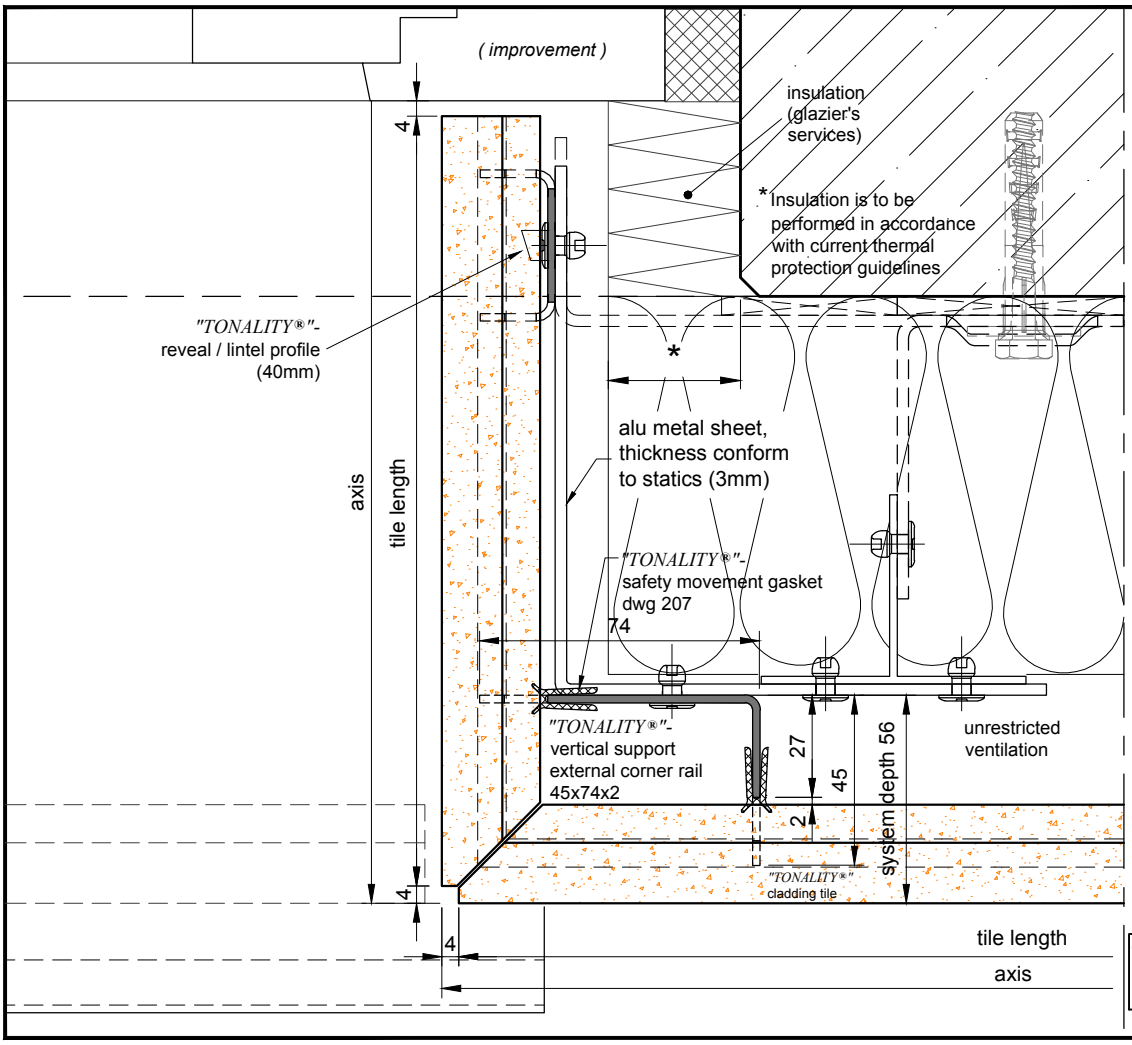


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical section of window
cornice steelplate junction

ANo. ADS 100-16
Scale: 1:1 with DIN A3

TYPICAL DETAIL "10.1"
of ANo. ADS 100-13



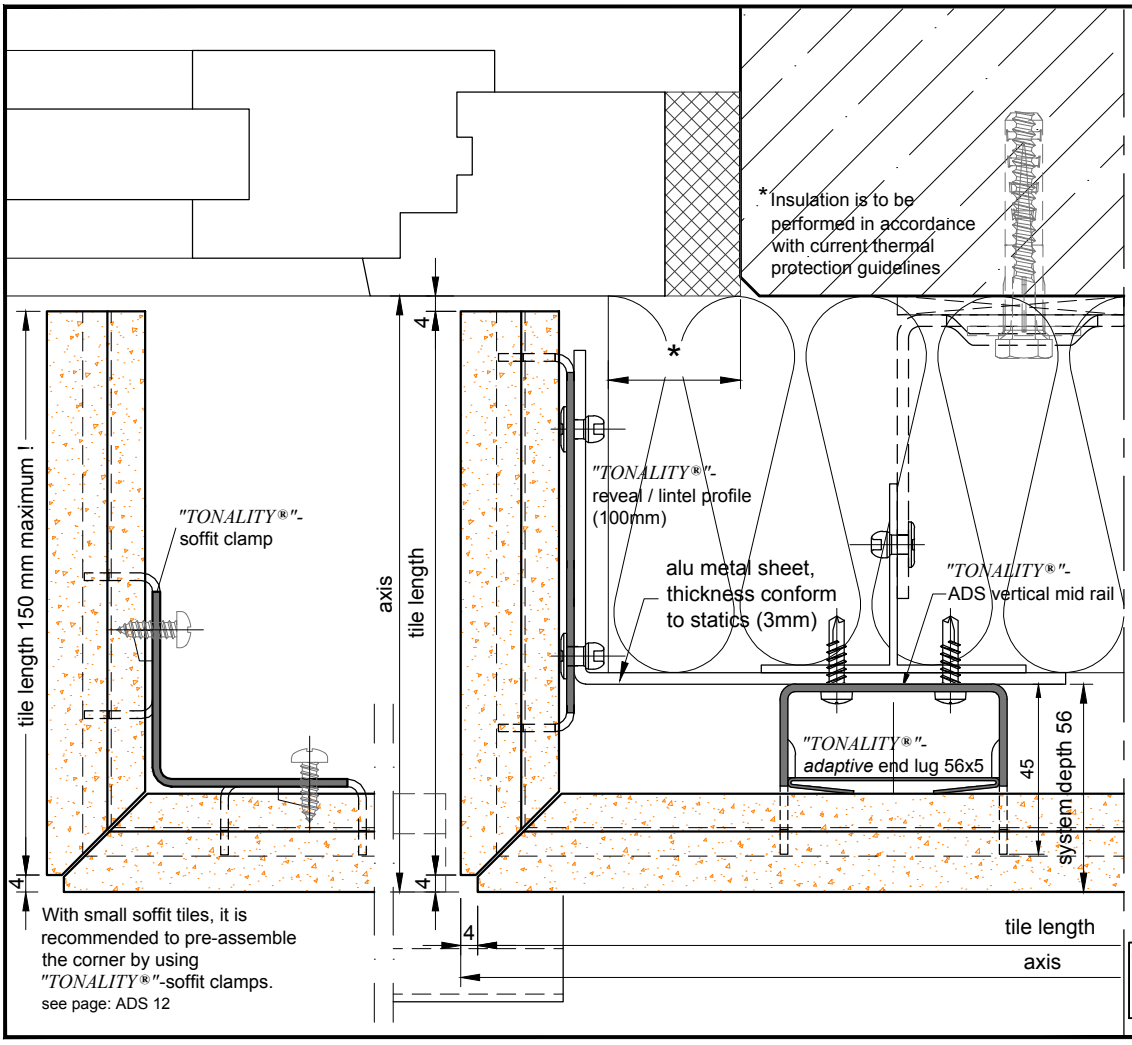
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of window with deep soffit

ANo. ADS 100-14.1
Scale: 1:1 with DIN A3

External corner, 90° angle with mitre cut and vertical primary substructure

TYPICAL DETAIL "9.3"
of ANo. ADS 100-13



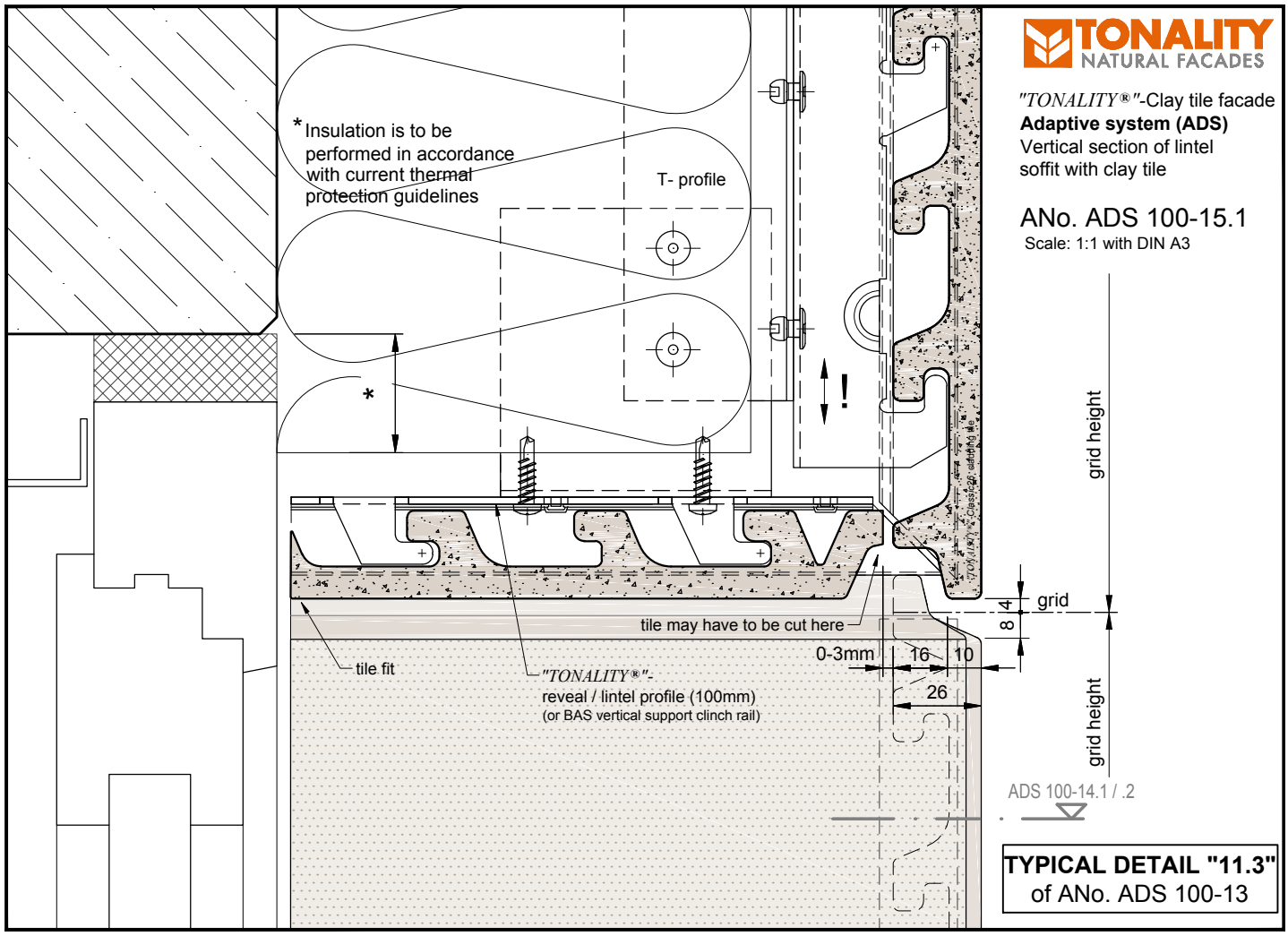
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of window with shallow soffit

ANo. ADS 100-14.2
Scale: 1:1 with DIN A3

External corner, 90° angle with mitre cut and vertical primary substructure

TYPICAL DETAIL "9.2"
of ANo. ADS 100-13

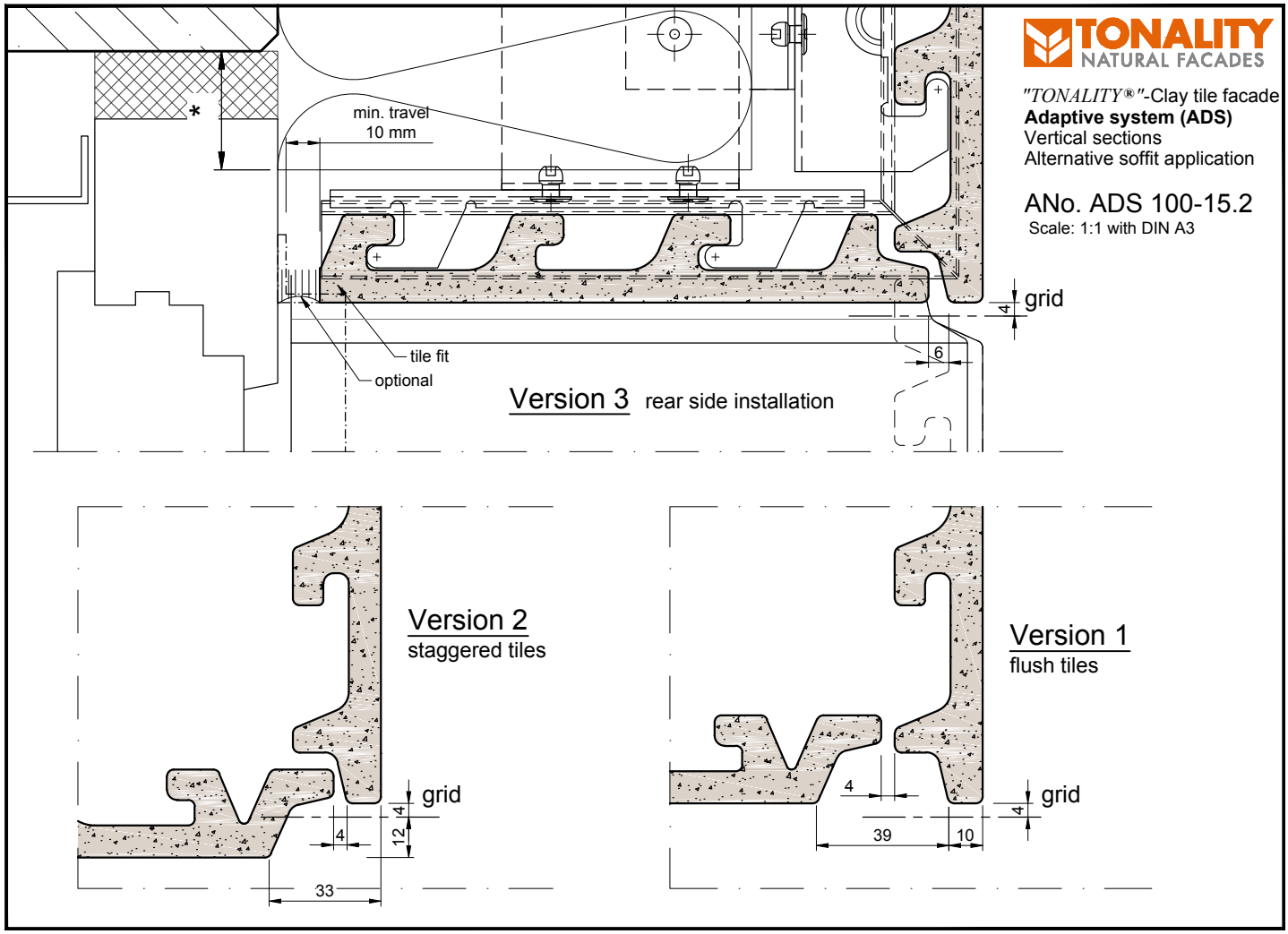


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical section of lintel soffit with clay tile

ANo. ADS 100-15.1
Scale: 1:1 with DIN A3

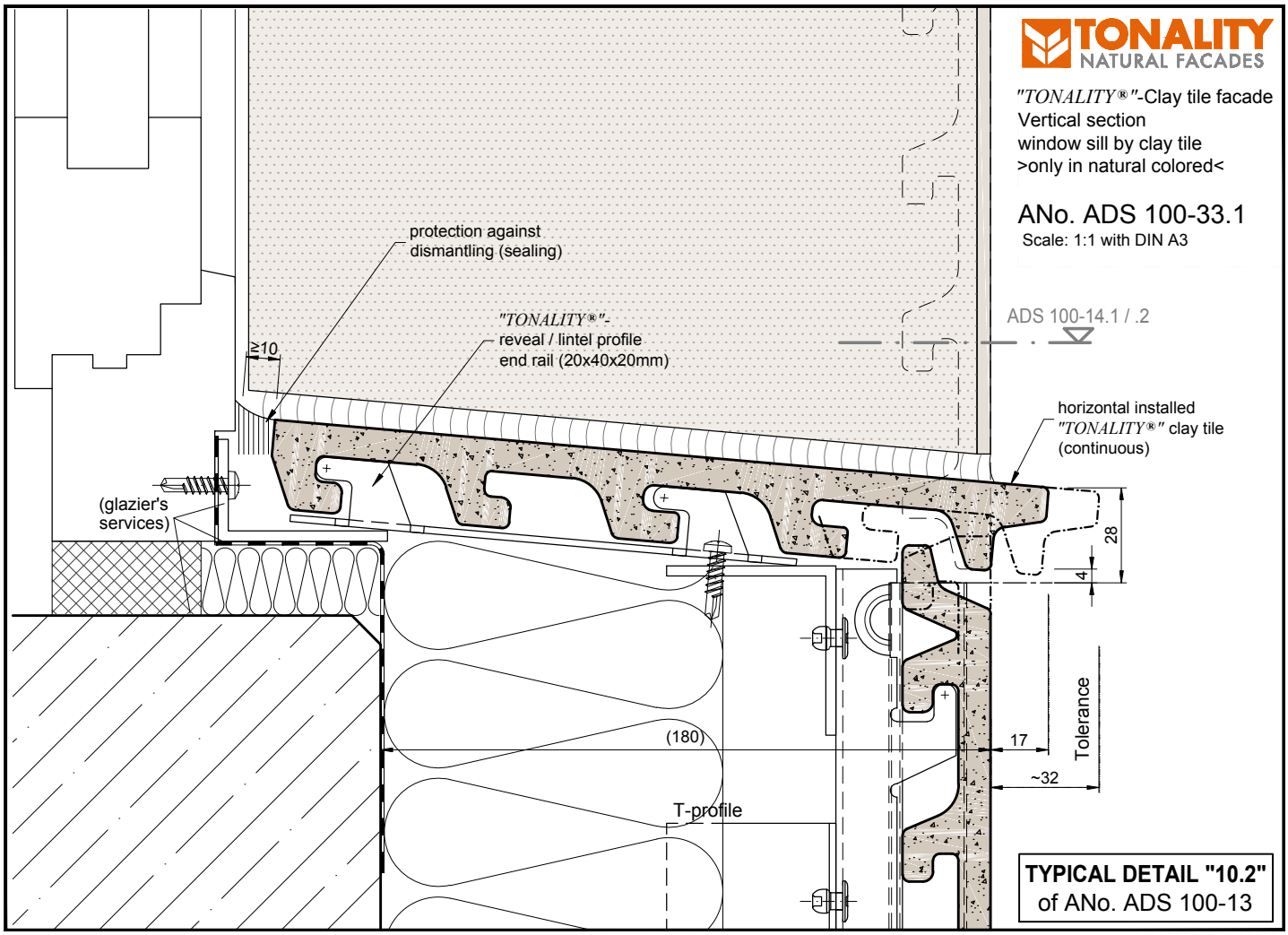
TYPICAL DETAIL "11.3"
of ANo. ADS 100-13



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical sections
Alternative soffit application

ANo. ADS 100-15.2
Scale: 1:1 with DIN A3

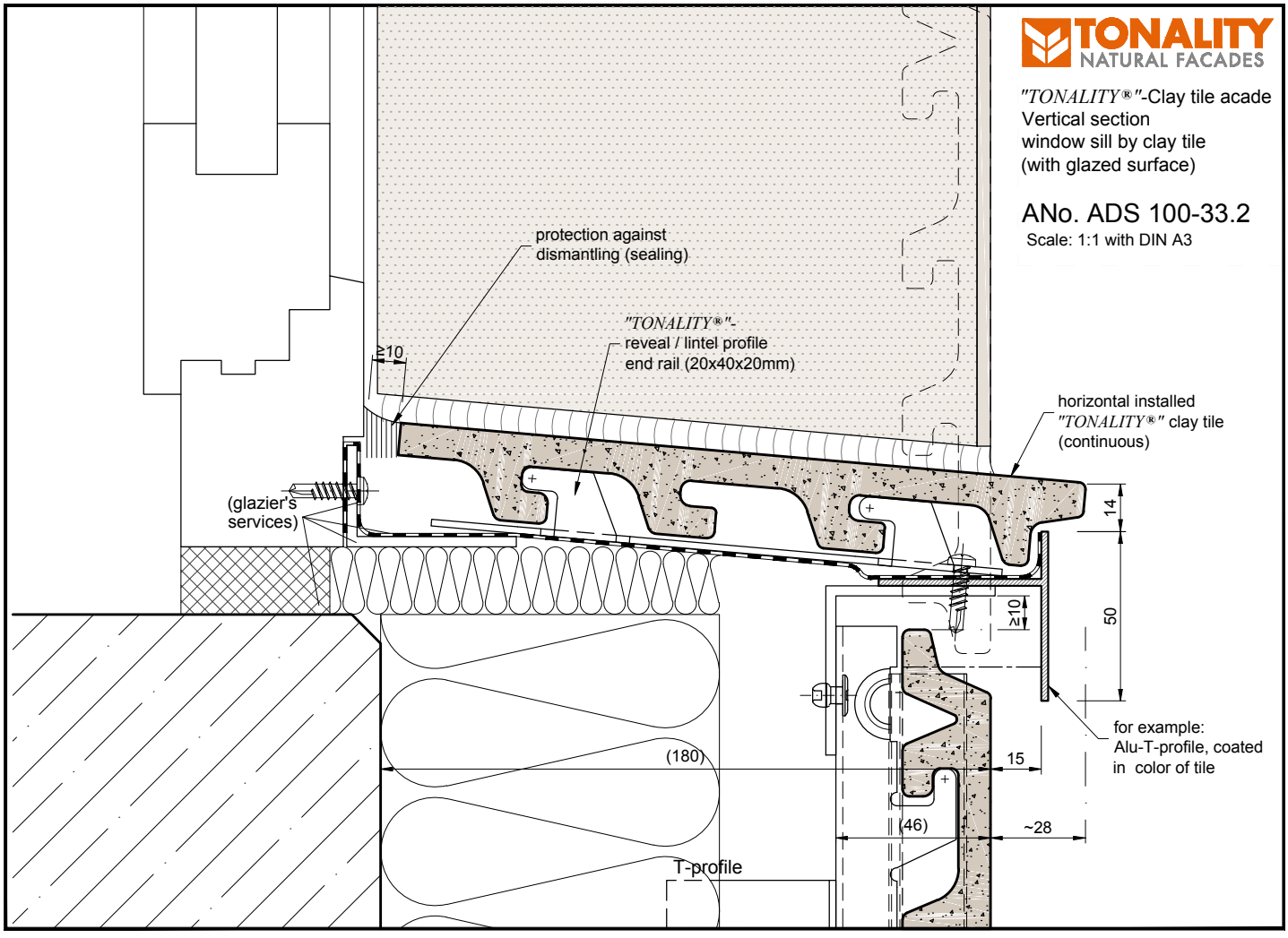


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Vertical section
window sill by clay tile
>only in natural colored<

ANo. ADS 100-33.1
Scale: 1:1 with DIN A3

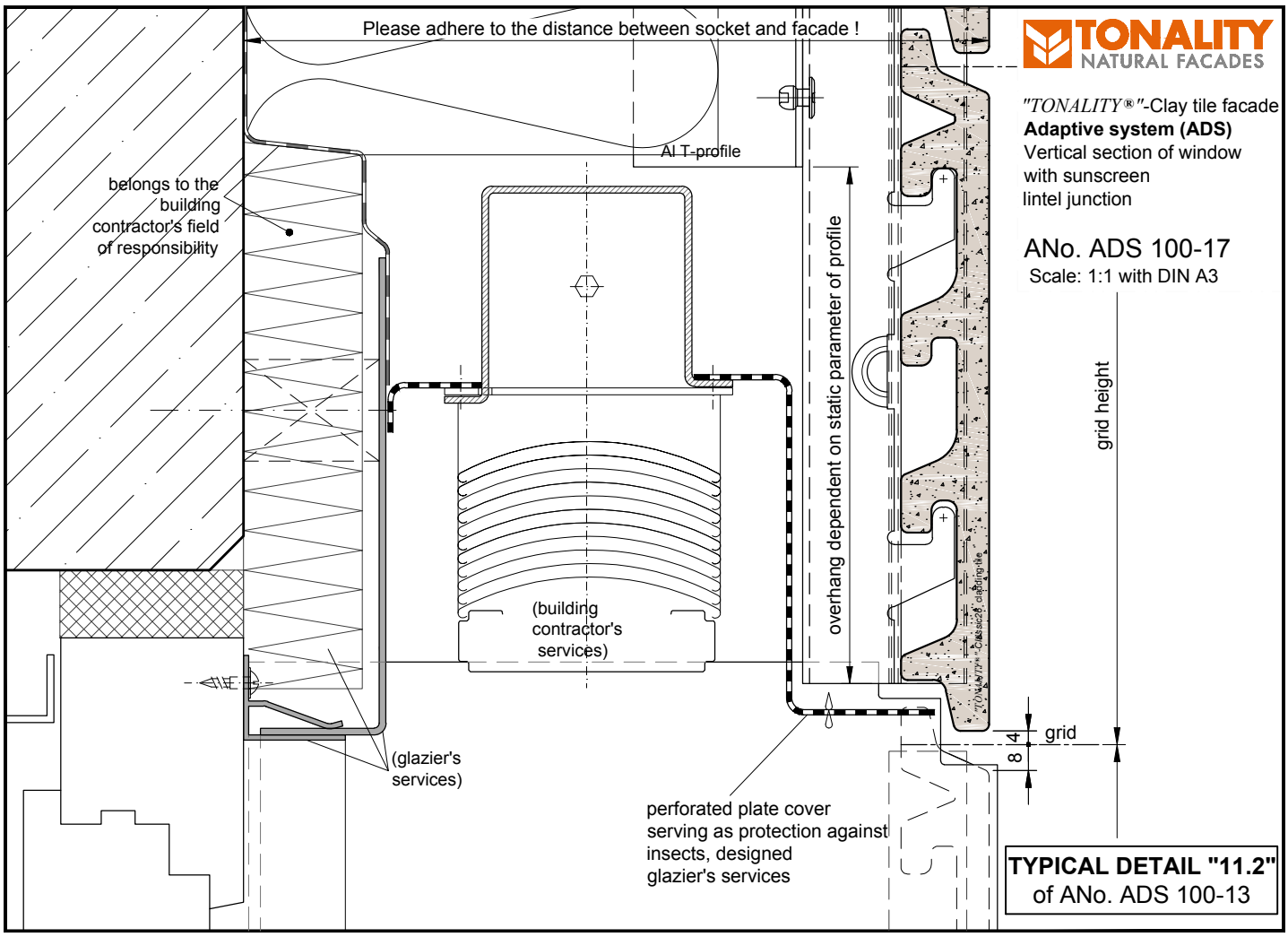
TYPICAL DETAIL "10.2"
of ANo. ADS 100-13



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile acade
Vertical section
window sill by clay tile
(with glazed surface)

ANo. ADS 100-33.2
Scale: 1:1 with DIN A3

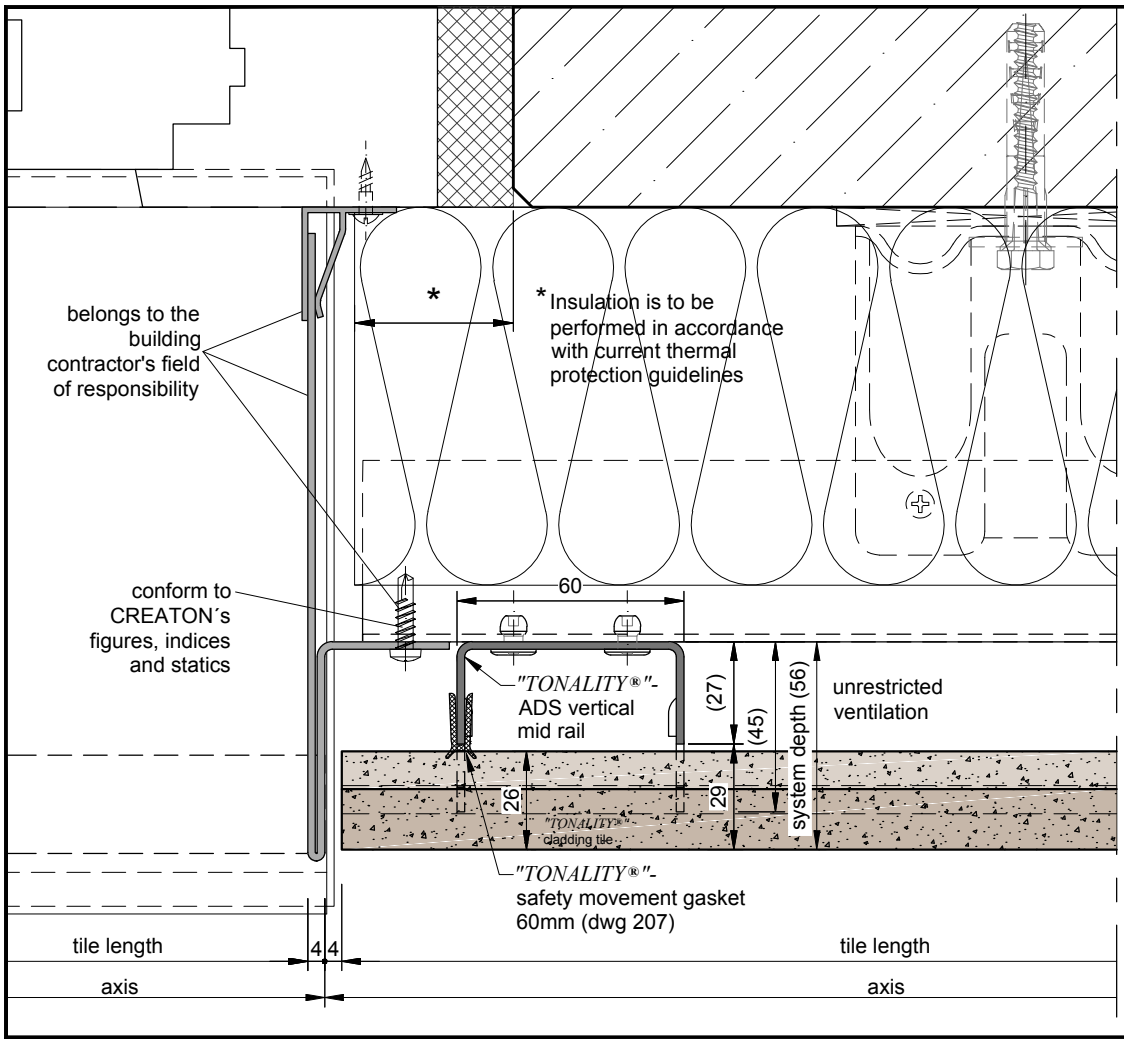


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Vertical section of window with sunscreen lintel junction

ANo. ADS 100-17
Scale: 1:1 with DIN A3

TYPICAL DETAIL "11.2"
of ANo. ADS 100-13

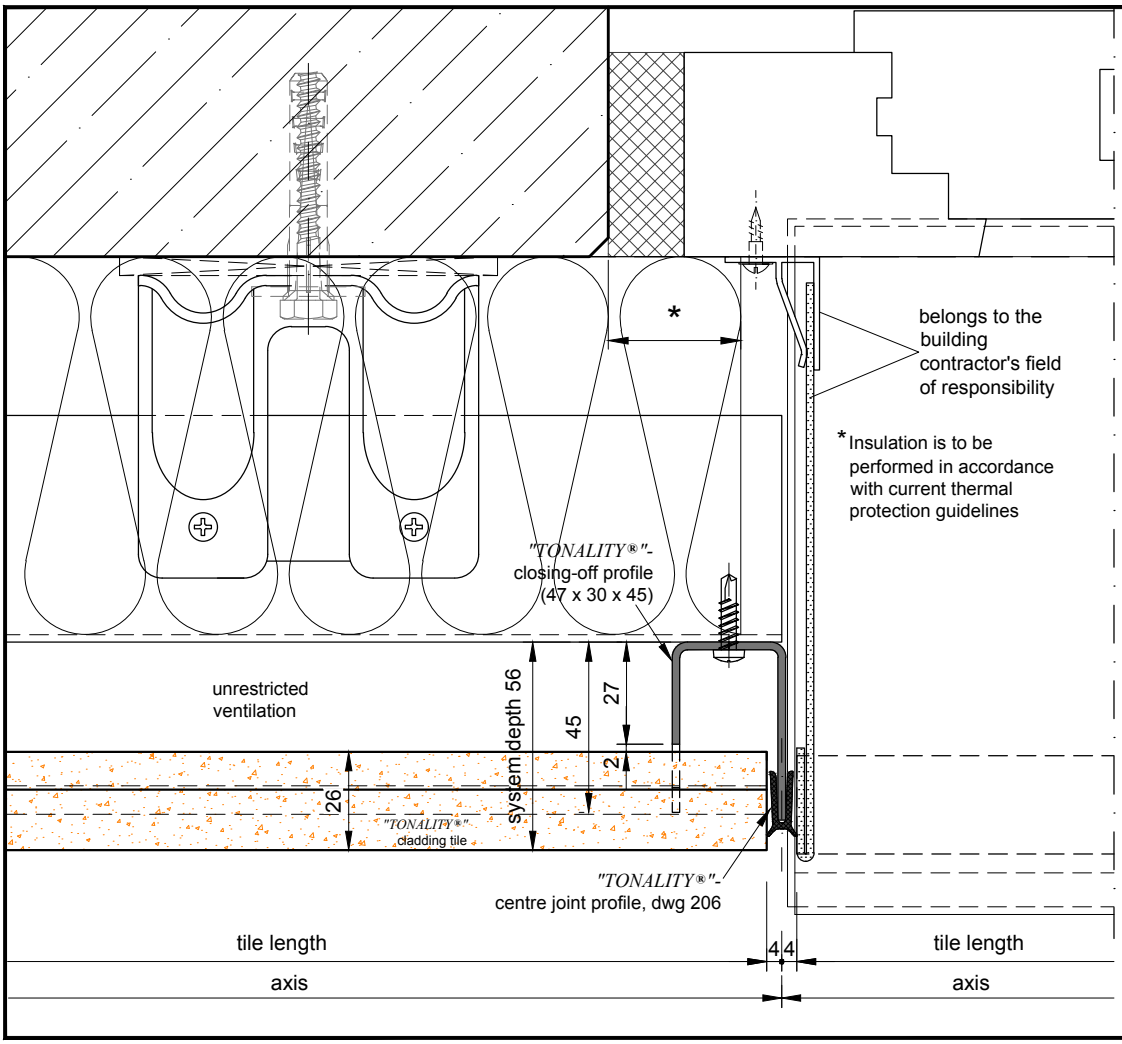


TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Adaptive system (ADS)
Horizontal section of window with horizontal primary substructure

ANo. ADS 100-18
Scale: 1:1 with DIN A3

TYPICAL DETAIL "9.4"
of ANo. ADS 100-13



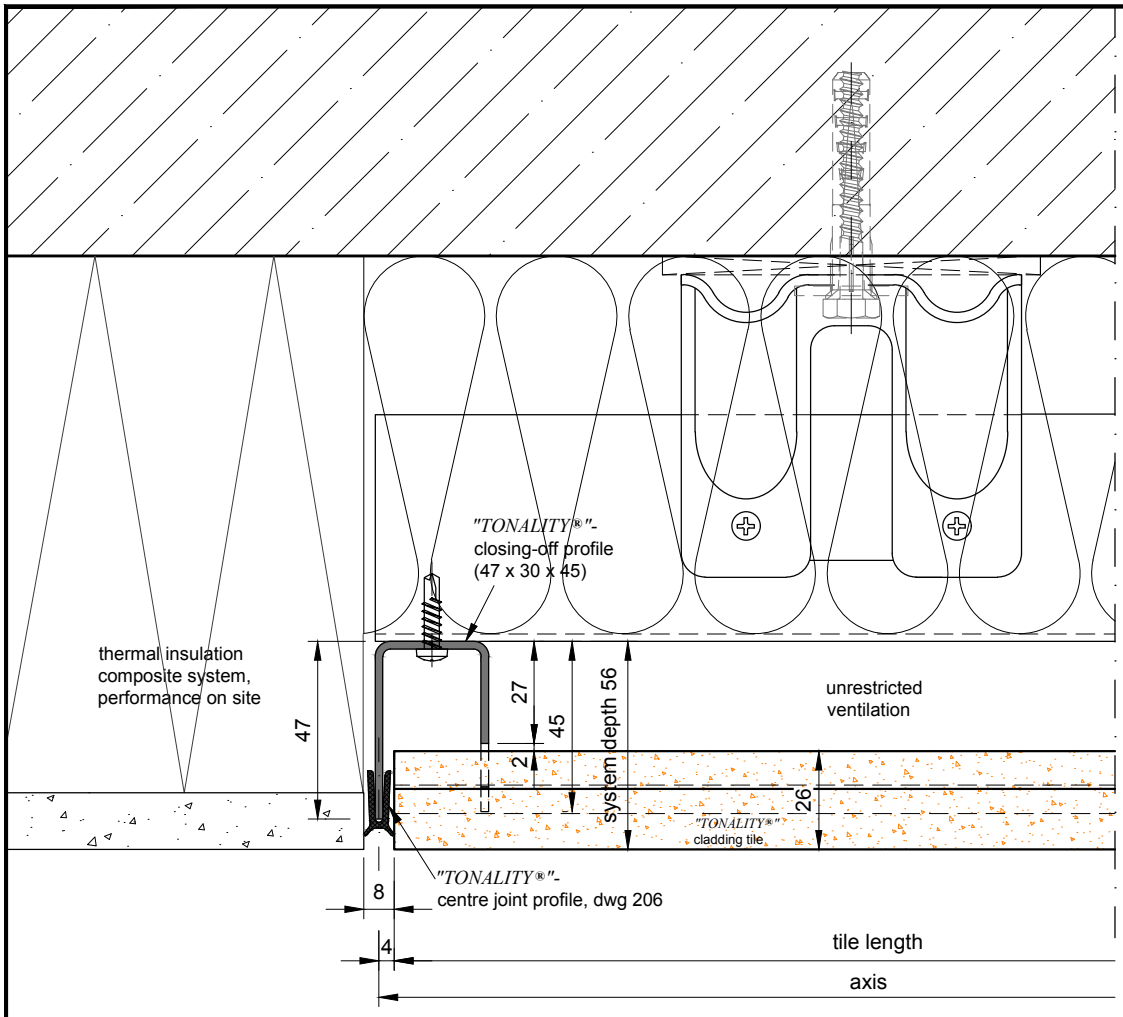
TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Horizontal section: transition from clay tile to window soffit with neoprene centre joint profile
(horizontal primary substructure)

ANo. ADS 100-14.3

Scale: 1:1 with DIN A3

TYPICAL DETAIL "9.5"
of ANo. ADS 100-13



TONALITY NATURAL FACADES

"TONALITY®"-Clay tile facade
Horizontal section: transition from clay tile to thermal insulation composite system with neoprene centre joint profile
(horizontal primary substructure)

ANo. ADS 100-30

Scale: 1:1 with DIN A3

TYPICAL DETAIL 12