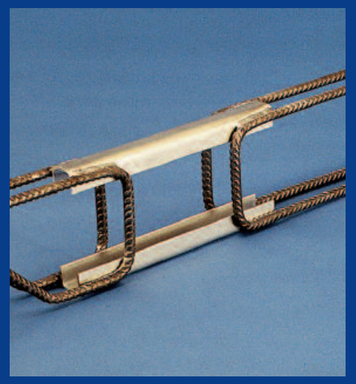

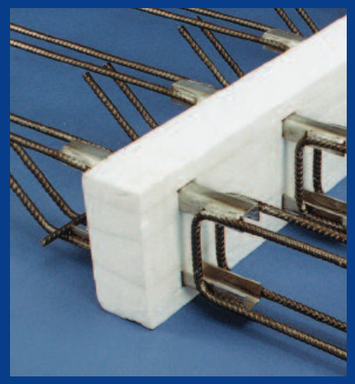

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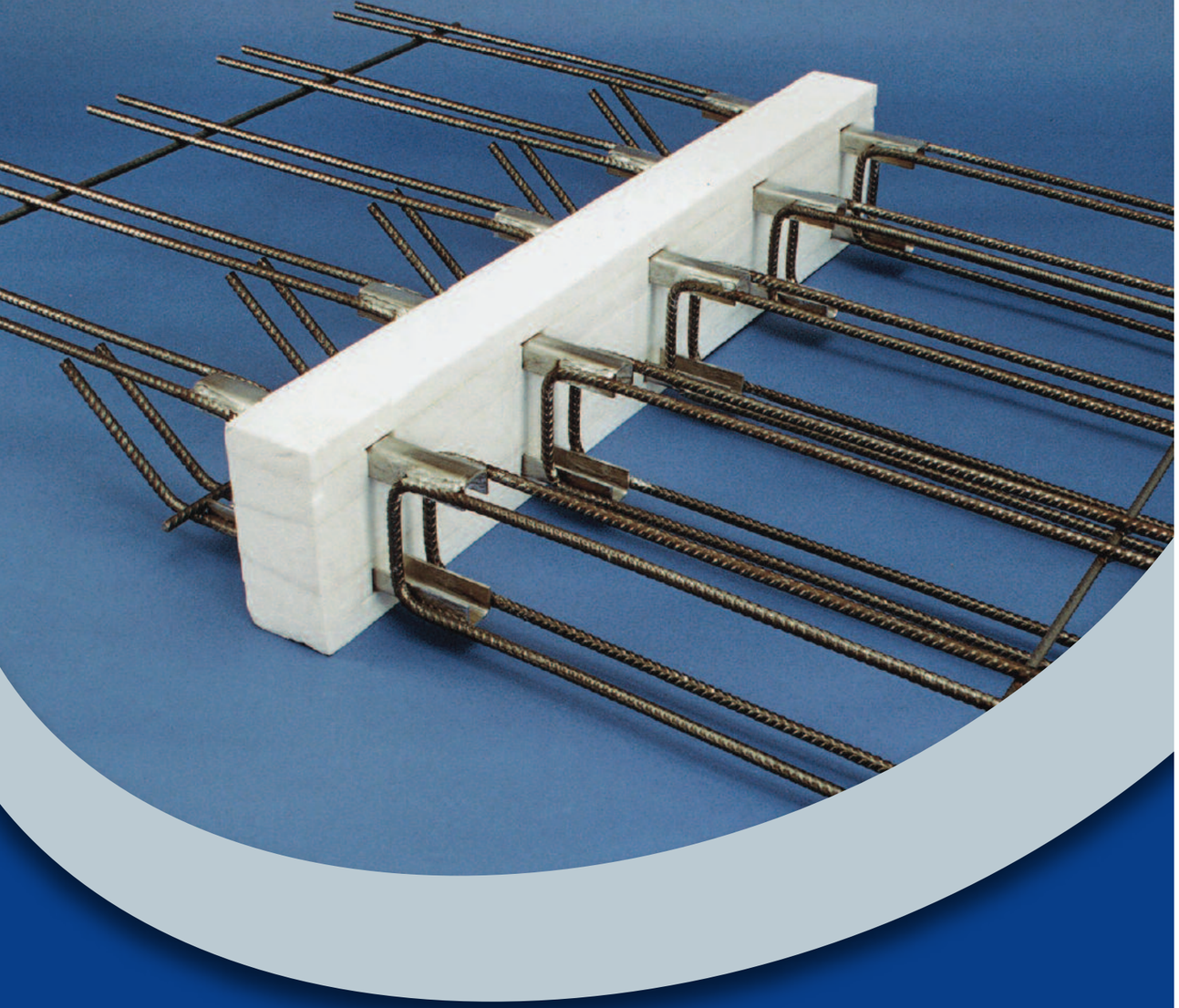
AVI-Thermokorb® Insulated Balcony Connection System

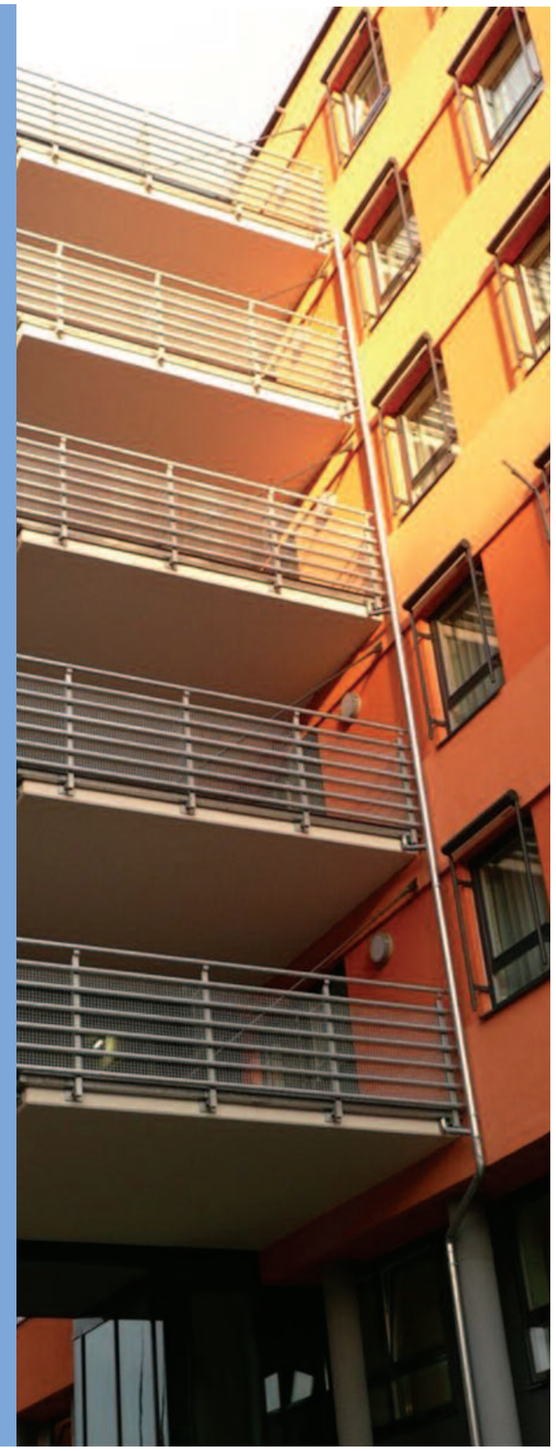


Summary of Type Series and Applications

TKM	Thermokorb connection elements for cantilever balcony slabs, continuous slabs etc.
TKA	Thermokorb connection elements for loggias, parapet walls and special solutions.
TKF	Split Thermokorb connection elements for prefabricated concrete elements.
AT/2	Thermokorb connection elements for parapet walls.
TKW	Thermokorb connection elements (arranged vertically) for wall brackets and deep beams.

Contents

CFS provides the total solution for all your fixing and lifting system problems. Our wide product range combined with our technical expertise enables us to help you produce the most effective solution for all your applications. We understand construction industry deadlines and we are fully committed to the highest standard of customer service.



Introduction

NIRO Thermokorbs are heat insulating, load-bearing connection elements between structural components made of reinforced concrete. They are used to improve heat insulation of cantilever reinforced concrete slabs from their connection into the inside of buildings. Further useful areas of application are: parapet walls, corbels and cantilevered slabs.

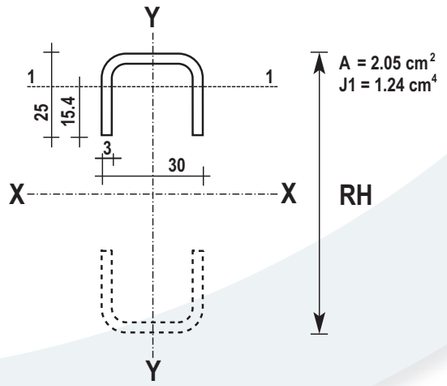
AVI-NIRO Thermokorb elements consist of a statically effective framework of independent individual ribs and a thick polystyrene hard foam plate of 8cm (EPS-W 30 in accordance with ÖNORM EN 13163). The individual ribs penetrate the polystyrene plate and in order to avoid corrosion they consist of u-shaped sheet steel profiles, the ends of which have concrete reinforcing bars welded on to them in the shape of a bracket.

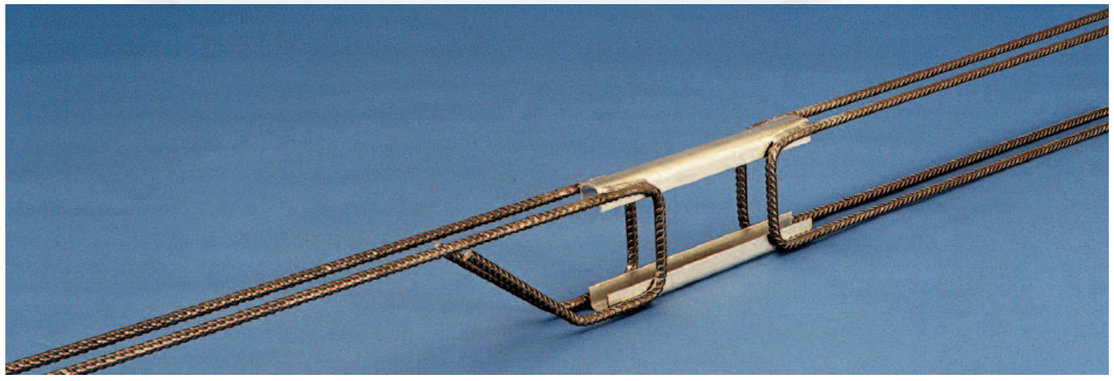
A transfer of forces from the individual ribs to the connecting reinforced concrete components takes place through corresponding starter bars.

All individual ribs are principally constructed in such a way that they can take positive as well as negative bending moments and transverse forces. They consist of a uniform U 30 NIRO sheet profile (material reference number 1.4571 C 850 in accordance with ÖNORM EN 10088-2).

Spacing is produced at Ø10mm per every 2 reinforced concrete steel brackets (B550A in accordance with ÖNORM B4707), which are welded on to the flanges from the upper and lower chord (gas-shielded welding).

The manufacturing of individual ribs takes place with the aid of welding robots at heights of 11cm, 13cm, 15cm and 17cm. Therefore, a slab thickness area of 16cm upwards can be covered.





Cross-section values for a rib element				
Slab thickness (cm)	≥16.0	≥18.0	≥ 20.0	≥ 22.0
Rib height RH (cm)	11.0	13.0	15.0	17.0
J_x (cm⁴)	86.97	128.32	177.88	235.65
J_y (cm⁴)	5.46	5.46	5.46	5.46

Description

AVI-NIRO Thermokorbs are polyaxial and wear-resistant and for this reason they are suitable for the most varied fields of application.

Standard korb elements from the TKM and TKA series with uniform lengths of 100 cm and a varying number of ribs (2-9 ribs) are intended for use in slab shaped supporting structures predominantly with moment force loads and/or shear force loads (Mx, Vy).

In confined spaces however, korb elements with 1-9 ribs with a uniform minimum rib distance of 10cm can also be manufactured. The korb element length is thus dependent on the number of ribs. Measurement of the U-30 Niroprofiles takes place based on an admissible buckling stress of 420 N/mm².

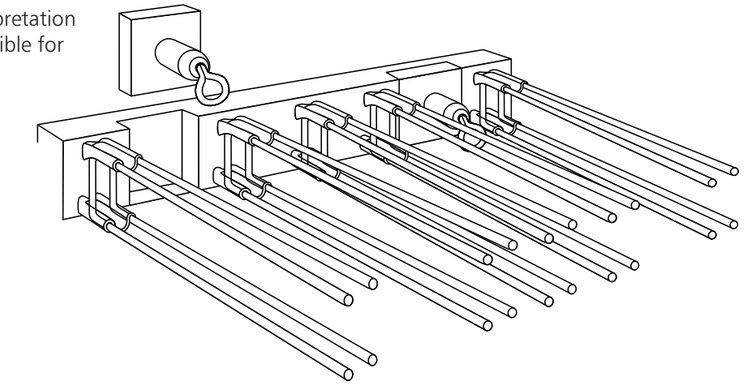
The required admissible moments and shear loads for calculation of the interaction diagrams are determined by a modified Vierendeel truss model. Extensive reinforced concrete slab and corbel trials have substantiated this calculating model.

The transfer of forces from U30-Niro steel profiles in the reinforced concrete cross-section takes place via a welded ribbed steel bracket with steel grade B550A. The selected uniform diameter of 10mm for all brackets is optimally agreed for the load capacity of the Niroprofiles and is simultaneously the mass for the starter bars to be inserted by the customer. The high moment of inertia of the individual ribs has a very favourable effect on the deformation and oscillation behaviour of the AVI-NIRO Thermokorb elements.

Therefore, the recommended increase in height of the cantilevered formwork can be kept to a minimum.

Precast Application

Easy to lift for precast interpretation of the insulated face is possible for a CFS lifting point.



Benefits

- Quality Austrian Product
- Easy to use in Precast
- Lifting points are easy to position within the connector
- Excellent thermal conductivity values
- Software available for easy project design & estimating

Recommended Formwork Height Increase of The Cantilever Length In %

Slab thickness	RH	Increase
≥ 16cm	11cm	0.59%
≥ 18cm	13cm	0.50%
≥ 20cm	15cm	0.43%
≥ 22cm	17cm	0.38%

The load capacity of the Niroprofiles depends on the rib height (RH).

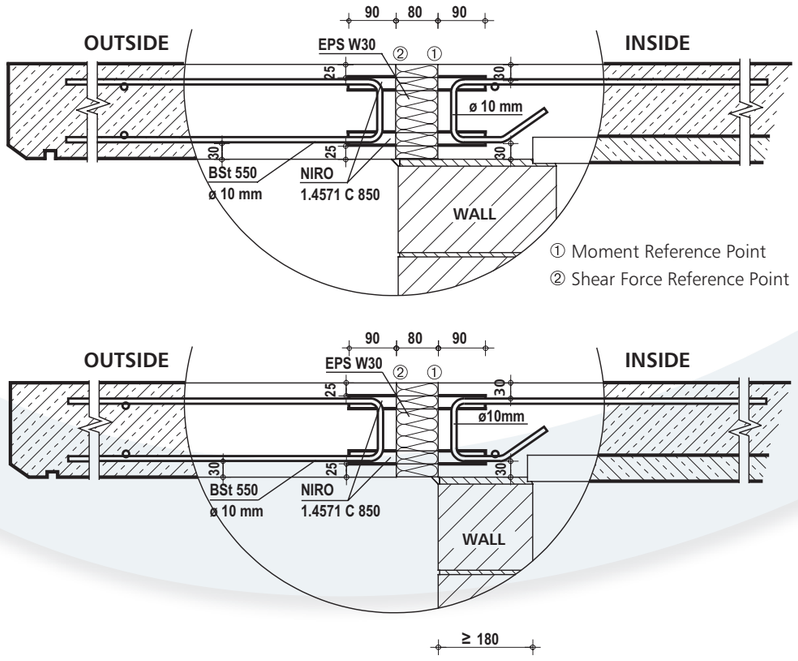
Rib heights and slab thicknesses can be agreed in turn according to demand and individual applications. The difference from the slab thickness to the rib height should be no less than 5cm.

If AVI-NIRO Thermokorb elements are also predominantly used in slab shaped supporting constructions many other applications are also possible because of the universal capacity: e.g. connections for supports, corbels, deep beams, pillars, parapet walls etc.

The dilatation interval should not exceed 7m.

Type Series – TKM

Slab thickness: ≥ 16cm
For cantilevered balconies (cantilever slabs).
Mainly to absorb bending moments and shear forces (interaction), even with varying directions.



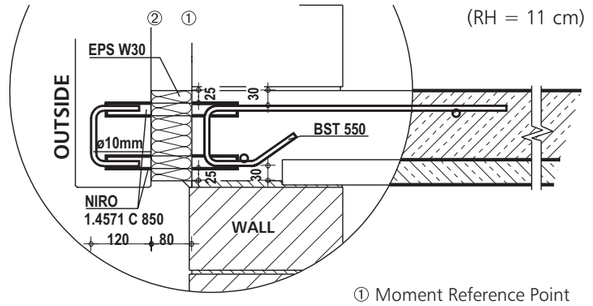
Largest Admissible Moments $M_{x\,max}$ (and associated shear forces V_y)
For Series Types TKA and TKM (characteristic values)

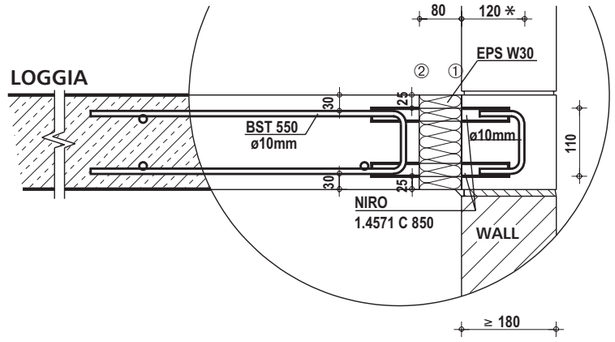
Slab thickness	Rib height	Forces	Number of ribs									
			1	2	3	4	5	6	7	8	9	10
≥ 16cm	11cm	$M_{x\,max}$ (kNm)	5.2	10.4	15.6	20.9	26.1	31.3	36.5	41.7	46.9	52.2
		V_y (kN)	5.8	11.6	17.5	23.3	29.1	34.9	40.7	46.5	52.4	58.2
≥ 18cm	13cm	$M_{x\,max}$ (kNm)	6.3	12.5	18.8	25.1	31.4	37.6	43.9	50.2	56.4	62.7
		V_y (kN)	6.6	13.2	19.8	26.4	33.1	39.7	46.3	52.9	59.5	66.1
≥ 20cm	15cm	$M_{x\,max}$ (kNm)	7.3	14.6	22.0	29.3	36.6	43.9	51.3	58.6	65.9	73.2
		V_y (kN)	7.2	14.4	21.5	28.7	35.9	43.1	50.3	57.4	64.6	71.8
≥ 22cm	17cm	$M_{x\,max}$ (kNm)	8.4	16.8	25.1	33.5	41.9	50.3	58.6	67.0	75.4	83.8
		V_y (kN)	7.6	15.2	22.8	30.4	38.0	45.6	53.2	60.9	68.5	76.1

When using the TKA series type it should be noted that rib heights of over 11cm can only be offered for variants V1 and V2 (170mm or 220mm projection).

Type Series – TKA

Slab thickness: ≥ 16cm
To absorb shear forces, bending moments and normal forces. Appropriate for corbels, parapet walls and for the connection of several types of pre-fabricated elements.
For determination of the admissible bending moments, the same interaction diagrams as those for the TKM series can be used.





*Options:
Variant V1: 170 mm
Variant V2: 220 mm

Largest Admissible Shear Forces $V_{y\,max}$ (and associated moments M_x)
For Series Types TKA and TKM (characteristic values)

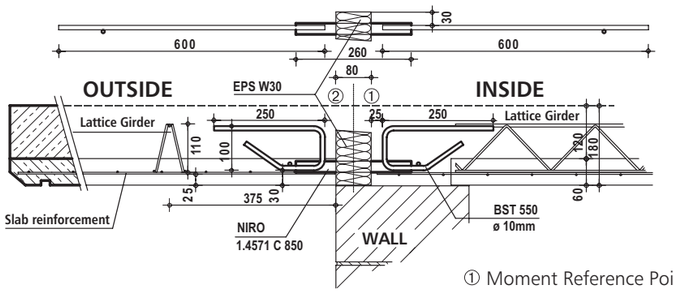
Slab thickness	Rib height	Forces	Number of ribs									
			1	2	3	4	5	6	7	8	9	10
≥ 16cm	11cm	M_x (kNm)	1.2	2.4	3.7	4.9	6.1	7.3	8.6	9.8	11.0	12.2
		$V_{y\,max}$ (kN)	15.3	30.6	45.9	61.2	76.5	91.8	107.1	122.4	137.7	153.0
≥ 18cm	13cm	M_x (kNm)	1.2	2.5	3.7	4.9	6.2	7.4	8.7	9.9	11.1	12.4
		$V_{y\,max}$ (kN)	15.5	30.9	46.4	61.8	77.3	92.7	108.2	123.6	139.1	154.5
≥ 20cm	15cm	M_x (kNm)	1.2	2.5	3.7	5.0	6.2	7.5	8.7	10.0	11.2	12.5
		$V_{y\,max}$ (kN)	15.6	31.2	46.8	62.4	78.0	93.5	109.1	124.7	140.3	155.9
≥ 22cm	17cm	M_x (kNm)	1.3	2.5	3.8	5.0	6.3	7.5	8.8	10.1	11.3	12.6
		$V_{y\,max}$ (kN)	15.7	31.4	47.1	62.9	78.6	94.3	110.0	125.7	141.4	157.1

When using the TKA series type it should be noted that rib heights of over 11 cm can only be offered for variants V1 and V2 (170 mm or 220 mm projection).

Type Series – TKF (split Thermokorb elements)

Slab thickness: ≥ 18cm

This two-piece version of type series TKM has been developed in particular for precast elements. One part (compression bar) is installed into the precast element, the second (tension chord) is set up at the construction site.

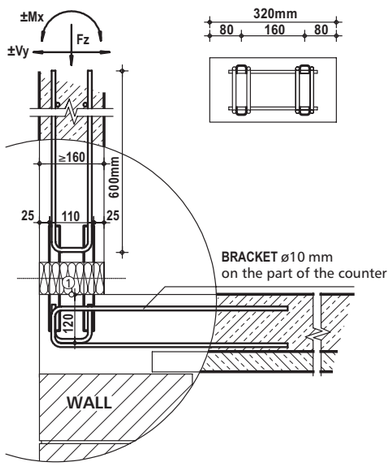


① Moment Reference Point
② Shear Force Reference Point

Largest Admissible Moments $M_{x\,max}$ (and associated shear forces V_y) For Series Type TKF

Slab thickness	Rib height	Forces	Number of ribs									
			1	2	3	4	5	6	7	8	9	10
≥ 18cm	13cm	$M_{x\,max}$ (kNm)	6.3	12.5	18.8	25.1	31.4	37.6	43.9	50.2	56.4	62.7
		V_y (kN)	3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.4	29.7	33.1

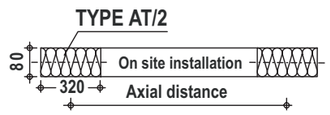
Type AT/2 for parapet walls on top of slabs



① Moment Reference Point

Admissible Forces For Parapet Wall Korb Element AT/2

Slab thickness	Rib height	Forces	AT/2
≥ 16cm	11cm	$\pm M_x$ (kNm)	9.0
		$\pm V_y$ (kN)	12.0
		F_z (kN)	35.0



Example: M_x = 2.6 kNm/m
V_y = 2.5 kNm/m
F_z = 7.5 kNm/m

Possible axial distances of the AT/2:
e_1 = 9.0 / 2.6 = 3.4m
e_2 = 12.0 / 2.5 = 4.8m
e_3 = 35.0 / 7.5 = 4.7m

Selected: Smallest axial distance 3.4m. The parapet wall or balustrade is to be considered as a continuous beam.

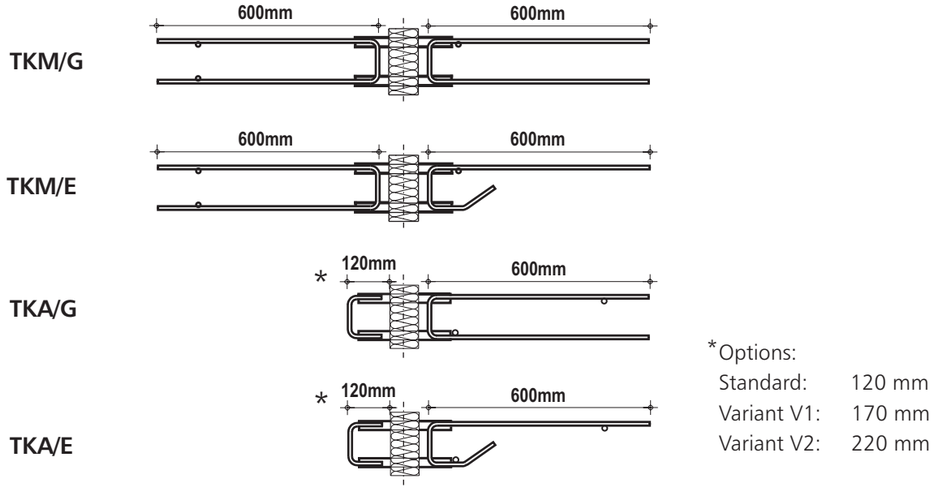
Designation Diagram of AVI-NIRO Thermokorb Connection Elements

Necessary Information for Orders

Example 1: TKA / 4G 11/18
Example 2: TKM / R6E 15/20 R90
Example 3: TFK / 9E 13/18
Example 4: TKM / 7G 11/22 R90
Example 5: AT / 2 11/16
Example 6: TKA / 5G 13/18 V1

	1	2	3	4	5	6	7
	TKM = Moment korb element; TKA = Shear force korb element TKF = Split korb element; AT/2 = Parapet wall korb element	'Empty' = Korb element length of 1m R = Korb element length depending on number of ribs	Number of ribs (Maximum 9)	Design Type of Compression bar G = Straight E = Curved	Rib height in cm: TKM (11; 13; 15; 17 TKA (11); TKA Var.1/2 (11; 13; 15; 17)	Slab thickness or Korb element height or wall thickness in cm	V1 or V2 for special forms of TKA Fire protection R90; 'Empty' = No fire protection
General Example	**TKM/**	**R**	**n**	**G/E**	**RH/**	**D**	**Anm.**

Design Type of the Compression Chord



*Options:
Standard: 120 mm
Variant V1: 170 mm
Variant V2: 220 mm

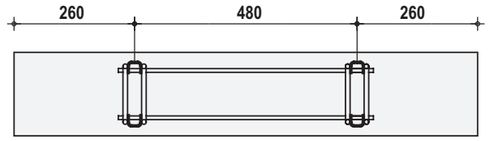
Special forms of brackets varying from the TKM and TKA ranges are possible in principle. AT/2 parapet wall korb elements and all korb elements for use in corbels are only supplied with straight compression chords.

For special fire protection requirements (R90-design), calcium silicate fire protection slabs are attached to heat insulation elements.

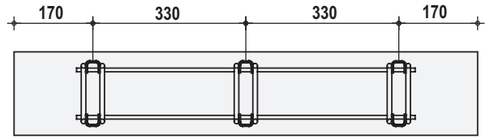
Standard Design

Number of ribs per 1m of Korb element length
(Korb element **without** fire protection)

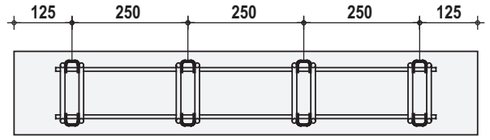
TKM/2
TKA /2



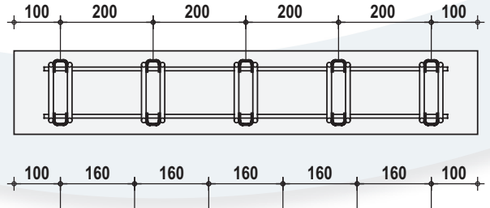
TKM/3
TKA /3



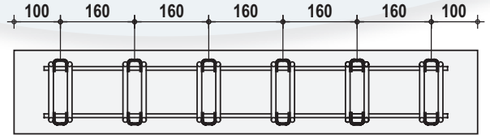
TKM/4
TKA /4



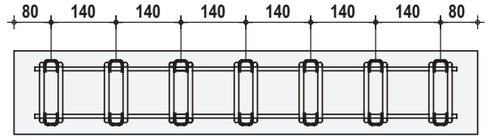
TKM/5
TKA /5



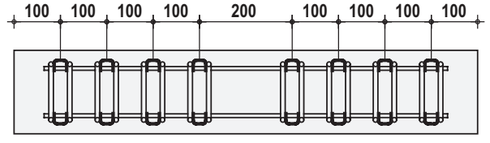
TKM/6
TKA /6



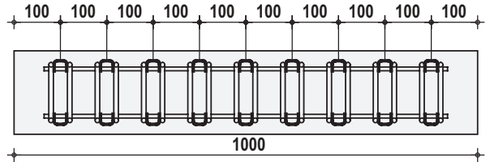
TKM/7
TKA /7



TKM/8
TKA /8



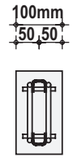
TKM/9
TKA /9



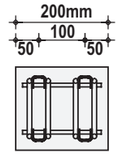
Rib Design

Korb element lengths depending on number of ribs
(Minimum lengths **without** fire protection)

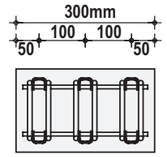
TKM/R1
TKA /R1



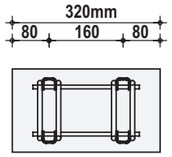
TKM/R2
TKA /R2



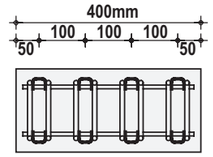
TKM/R3
TKA /R3



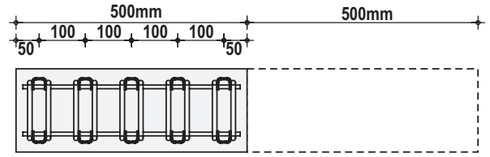
AT/2



TKM/R4
TKA /R4

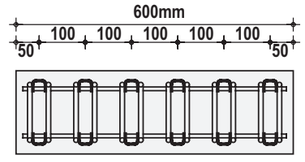


TKM/R5
TKA /R5

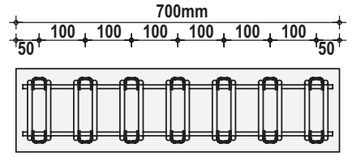


2 TKM/A R5 resulting in a maximum of 10 ribs per meter

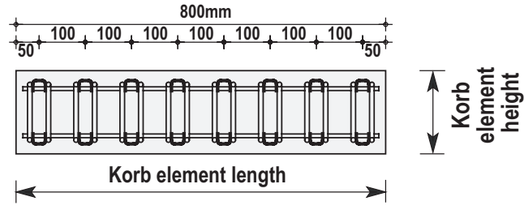
TKM/R6
TKA /R6



TKM/R7
TKA /R7



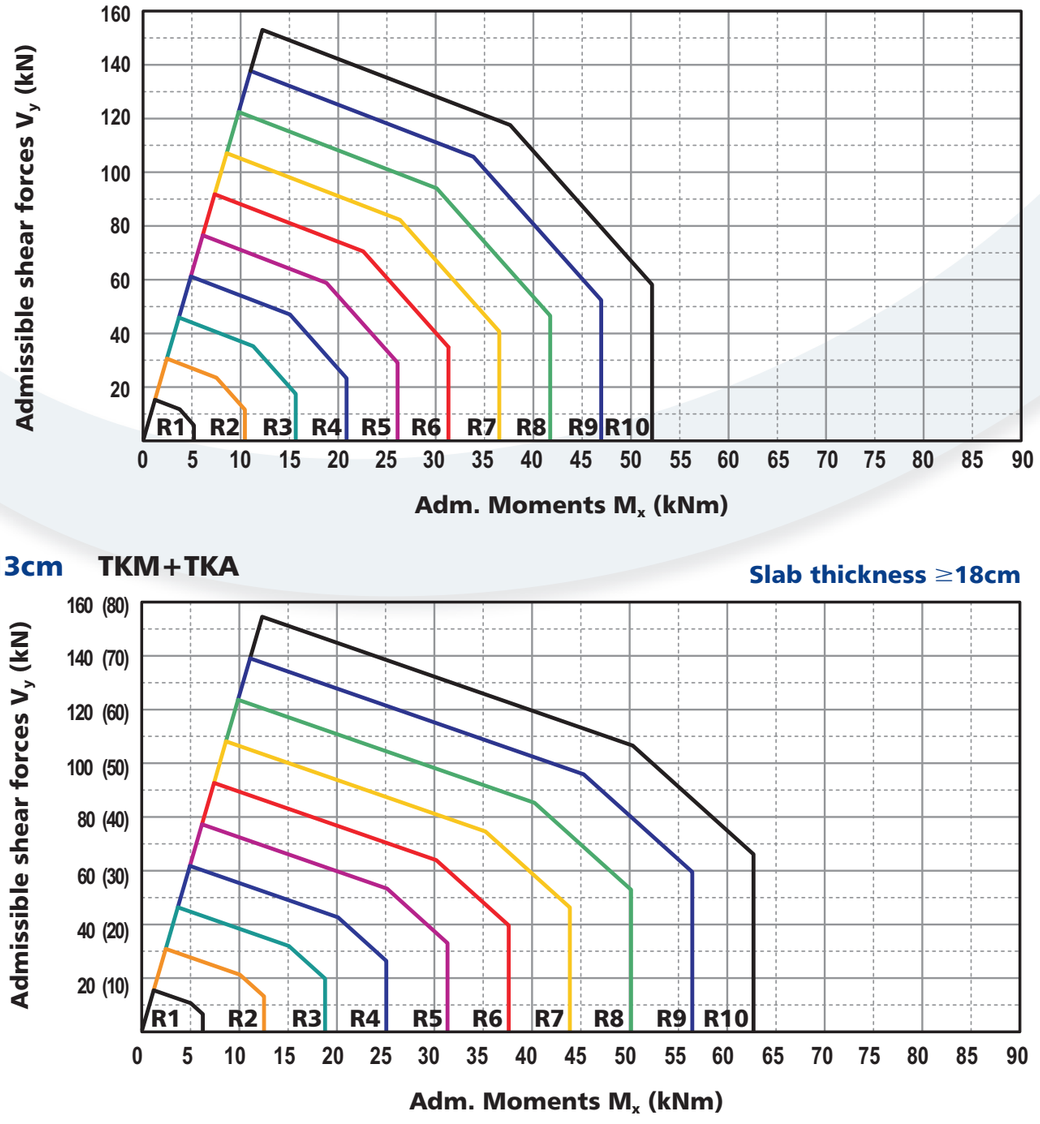
TKM/R8
TKA /R8



Moment / Shear Force-Interaction Diagrams for Slabs

For different rib heights RH
and different number of ribs Rn

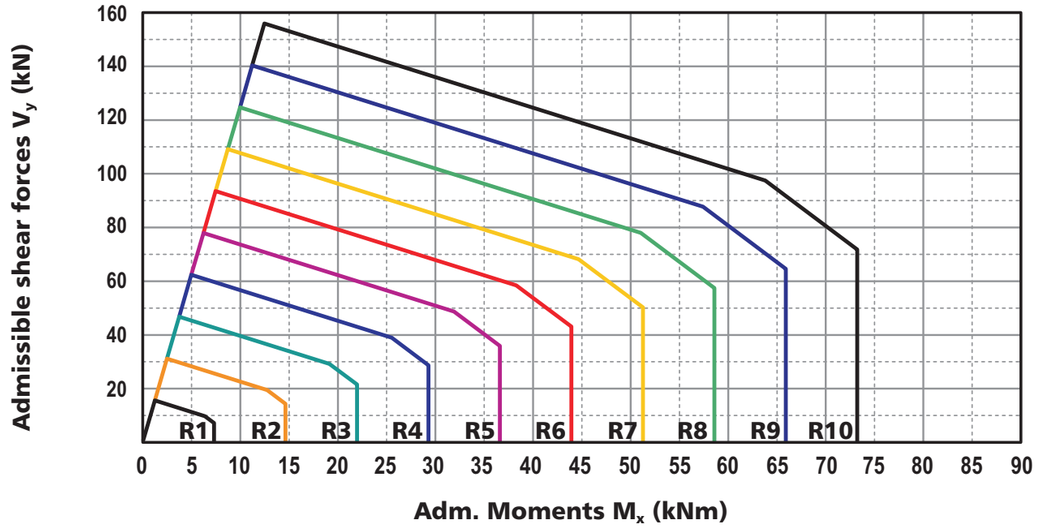
RH=11cm **TKM+TKA** **Slab thickness ≥16cm**



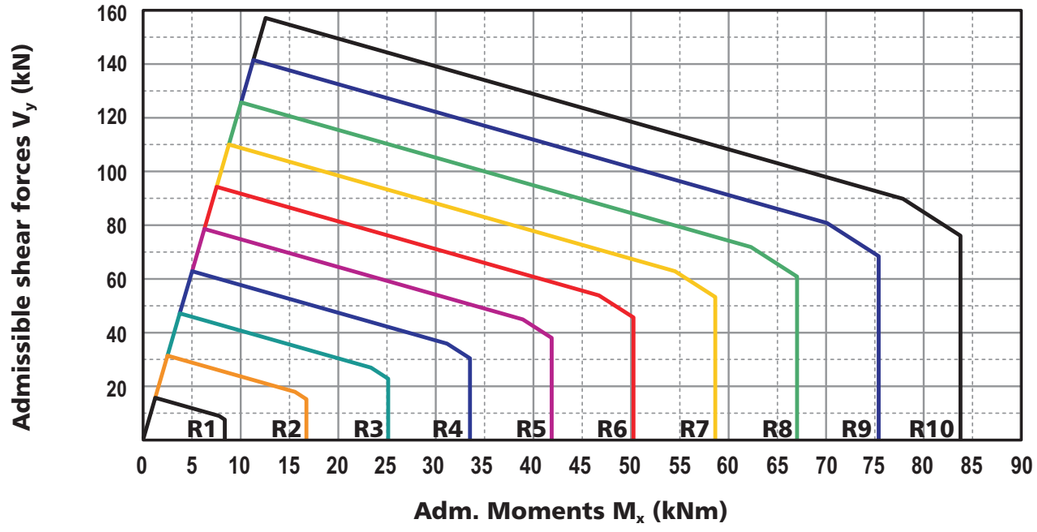
RH=13cm **TKM+TKA** **Slab thickness ≥18cm**

The admissible shear forces V_y displayed in brackets apply for the calculation of type series TKF.
Only variants V1 and V2 are possible for the TKA-types.

RH=15cm **TKM+TKA V1+TKA V2** **Slab thickness ≥ 20cm**



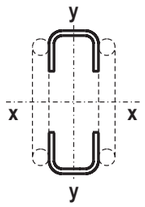
RH=17cm **TKM+TKA V1+TKA V2** **Slab thickness ≥ 22cm**



Example of use: Balcony; Slab thickness = 22cm
M = 40kNm; V = 35kN (working loads)

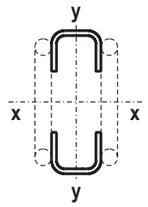
1st Option: RH=17cm → R5 selected: **TKM/5E** 17/22
2nd Option: RH=15cm → R6 selected: **TKM/6E** 15/22

Moment / Shear Force Interaction (characteristic loads) Tables for a Vertical Rib



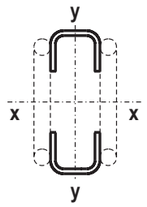
Rib Height 11cm		
Slab thickness ≥16cm		
M/V	M_x	V_y
	kNm	kN
0.08	1.2	15.3
0.10	1.5	14.9
0.11	1.7	14.7
0.13	1.9	14.4
0.15	2.1	14.1
0.16	2.2	13.9
0.18	2.4	13.6
0.20	2.6	13.4
0.21	2.8	13.1
0.23	3.0	12.8
0.25	3.2	12.6
0.27	3.4	12.3
0.29	3.5	12.1
0.31	3.7	11.8
0.35	3.9	11.2
0.39	4.1	10.4
0.44	4.3	9.7
0.50	4.5	8.9
0.57	4.6	8.2
0.65	4.8	7.4
0.76	5.0	6.6
0.90	5.2	5.8

TKM+TKA



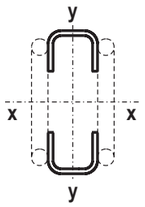
Rib Height 13cm		
Slab thickness ≥18cm		
M/V	M_x	V_y
	kNm	kN
0.08	1.2	15.5
0.10	1.5	15.1
0.12	1.7	14.8
0.14	2.0	14.5
0.16	2.2	14.2
0.18	2.5	13.9
0.20	2.7	13.6
0.22	2.9	13.3
0.24	3.2	13.0
0.27	3.4	12.7
0.30	3.7	12.4
0.32	3.9	12.1
0.35	4.1	11.8
0.38	4.4	11.5
0.41	4.6	11.2
0.45	4.9	10.9
0.49	5.1	10.4
0.55	5.3	9.7
0.63	5.6	8.9
0.72	5.8	8.1
0.83	6.1	7.3
0.95	6.3	6.6

TKM+TKA V1,V2



Rib Height 15cm		
Slab thickness ≥20cm		
M/V	M_x	V_y
	kNm	kN
0.08	1.2	15.6
0.10	1.5	15.3
0.12	1.8	15.0
0.14	2.1	14.6
0.17	2.4	14.3
0.19	2.7	14.0
0.22	3.0	13.7
0.24	3.2	13.3
0.27	3.5	13.0
0.30	3.8	12.7
0.33	4.1	12.3
0.37	4.4	12.0
0.40	4.7	11.7
0.44	5.0	11.3
0.48	5.3	11.0
0.52	5.6	10.7
0.57	5.9	10.4
0.61	6.1	10.0
0.67	6.4	9.6
0.76	6.7	8.8
0.87	7.0	8.0
1.02	7.3	7.2

TKM+TKA V1,V2



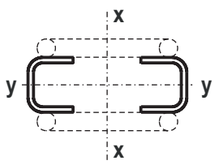
Rib Height 17cm		
Slab thickness ≥22cm		
M/V	M_x	V_y
	kNm	kN
0.08	1.3	15.7
0.10	1.5	15.5
0.12	1.8	15.1
0.15	2.2	14.8
0.18	2.5	14.4
0.21	2.9	14.0
0.24	3.2	13.7
0.27	3.6	13.3
0.30	3.9	13.0
0.34	4.3	12.6
0.38	4.6	12.3
0.42	5.0	11.9
0.46	5.3	11.6
0.50	5.6	11.2
0.55	6.0	10.8
0.60	6.3	10.5
0.66	6.7	10.1
0.72	7.0	9.8
0.78	7.4	9.4
0.85	7.7	9.1
0.96	8.1	8.4
1.10	8.4	7.6

TKM+TKA V1,V2

Moment / Shear Force for a Horizontal Rib

Slab thickness ≥ 12cm

$J_y = 5{,}46 cm^4$
$W_y = 3{,}64 cm^3$



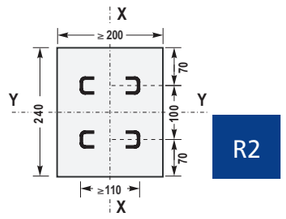
$M_{y\,max} = 1{,}5 kNm$
$(V_{x\,max} = 19{,}1 kN)$

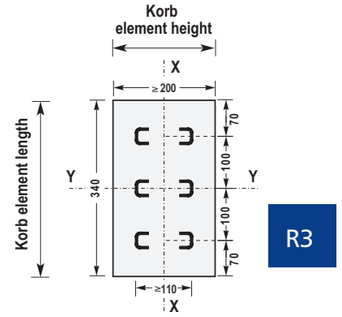
Vertically Arranged AVI-NIRO Thermokorb Elements for Wall Connections and Deep Beams

TKW – Application

AVI-Thermokorb elements are versatile because they can be stressed in three axes. Vertical arrangement of the korb elements is provided where excess loads have to be transferred via relatively narrow corbels.

Length and height of the korb elements are to be selected so that the required concrete covering is still given.





Largest Admissible Moments $M_{y\,max}$ for Corbels (rib design)

Corbel width	Corbel height	Cutting forces		R2	R3	R4	R5	R6	R7	R8	R10 (2x R5)
≥ 20cm	variable	$M_{y\,max}$	(kNm)	8.7	18.6	31.9	48.7	69.1	92.9	120.3	185.6
		V_x	(kN)	28.7	45.1	60.6	75.8	90.9	106.0	121.0	150.9

Largest Admissible Shear Forces $V_{x\,max}$ for Corbels (rib design)

Corbel width	Corbel height	Cutting forces		R2	R3	R4	R5	R6	R7	R8	R10 (2x R5)
≥ 20cm	variable	M_y	(kNm)	4.3	7.1	9.9	12.9	15.8	18.8	21.8	27.8
		$V_{x\,max}$	(kN)	53.2	88.3	124.2	160.8	197.8	235.1	272.5	347.9

Largest Admissible Moments $M_{y\,max}$ for Corbels (standard korb elements)

Corbel width	Corbel height	Cutting forces		TKM2 TKA2	TKM3 TKA3	TKM4 TKA4	TKM5 TKA5	TKM6 TKA6	TKM7 TKA7	TKM8 TKA8	TKM9 TKA9
≥ 20cm	ca.100cm	$M_{y\,max}$	(kNm)	46.9	65.8	83.6	100.7	112.8	131.9	151.1	151.2
		V_x	(kN)	30.6	45.5	60.6	75.6	90.7	105.7	120.9	135.9

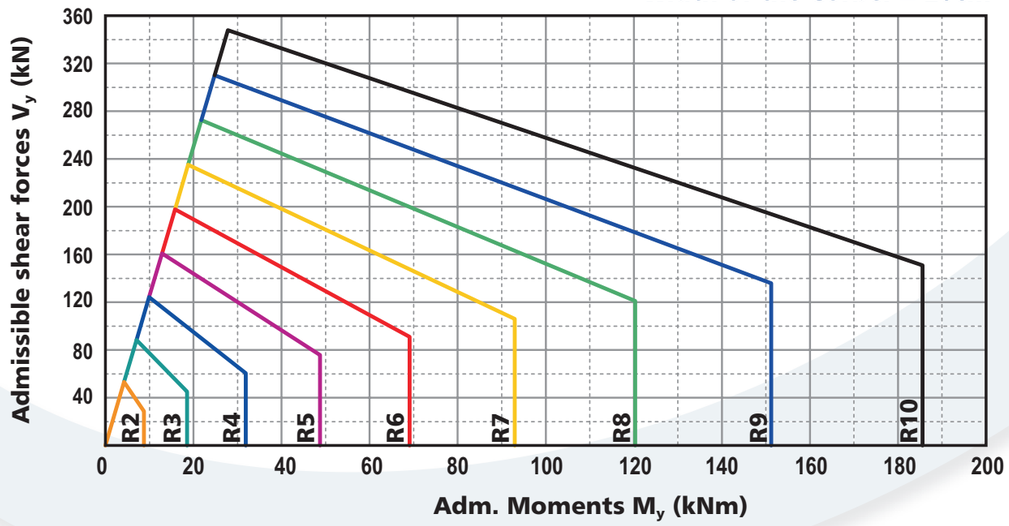
Largest Admissible Shear Forces $V_{x\,max}$ for Corbels (standard korb elements)

Corbel width	Corbel height	Cutting forces		TKM2 TKA2	TKM3 TKA3	TKM4 TKA4	TKM5 TKA5	TKM6 TKA6	TKM7 TKA7	TKM8 TKA8	TKM9 TKA9
≥ 20cm	ca.100cm	M_y	(kNm)	5.7	8.5	11.2	14.0	16.7	19.5	22.3	24.8
		$V_{x\,max}$	(kN)	71.0	105.9	140.6	175.2	209.0	243.8	278.8	310.1

Moment / Shear Force Diagram for Corbels

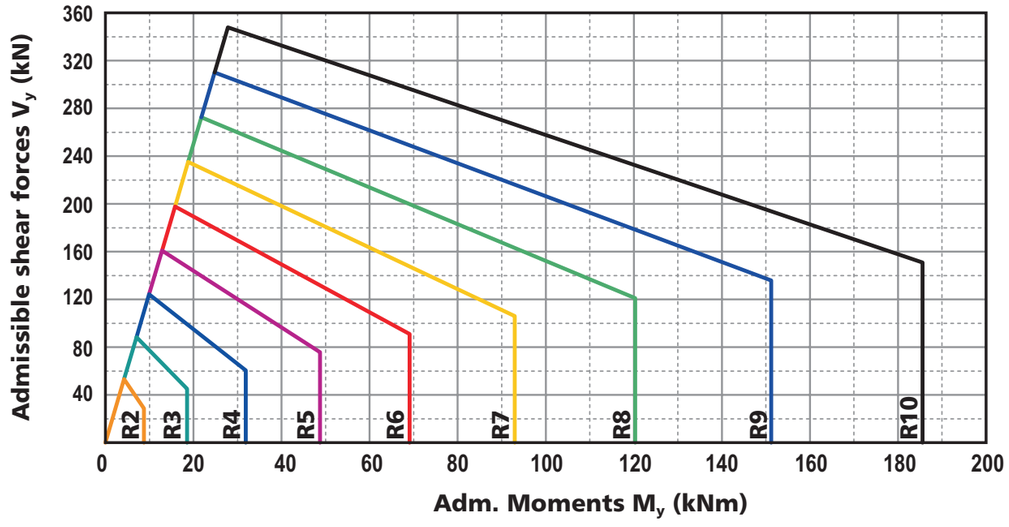
Rib Design – Applicable for TKM and TKA
The minimum height of the corbel depends on the number of ribs Rn (Rib spacing 10cm).

Width of the Corbel ≥ 20cm



Standard Design – Applicable for TKM and TKA
The minimum height of the corbel amounts to approx. 100cm (= korb element length of standard TKM and TKA korb elements) and depends on the number of ribs Rn.

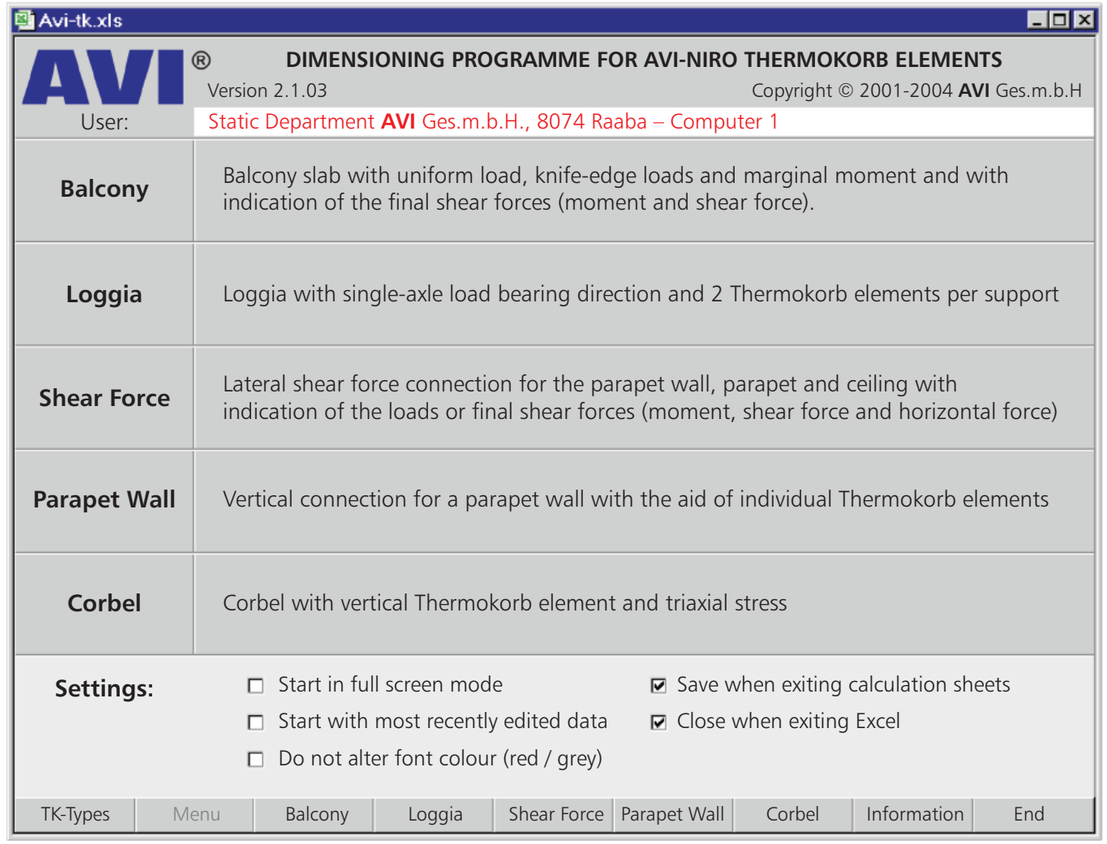
Width of the Corbel ≥ 20cm



TK-BEM

The calculation programme 'TK-BEM' supplies the necessary Thermokorb element types for different loads.

The programme is in Excel spreadsheet format (starting from version 97). The series types of the AVI-NIRO Thermokorb element are calculated in all current areas of application.



The following pages can be selected in the Start Menu:

Balcony connections (mainly types AVI-TKM and AVI-TKA).
Either dimensions and loads of a balcony slab or the final cutting forces (moment and shear force) are required as input values.

Loggia connections (series type AVI-TKA).
A loggia slab is calculated as a uniaxial acting reinforced concrete slab with 2 AVI-TKA's each per support.

Shear force connections (series type AVI-TKA).
Shear force connections (series type AVI-TKA).
Either dimensions and loads or the final cutting forces (moment, shear force and horizontal force) are required as input values.

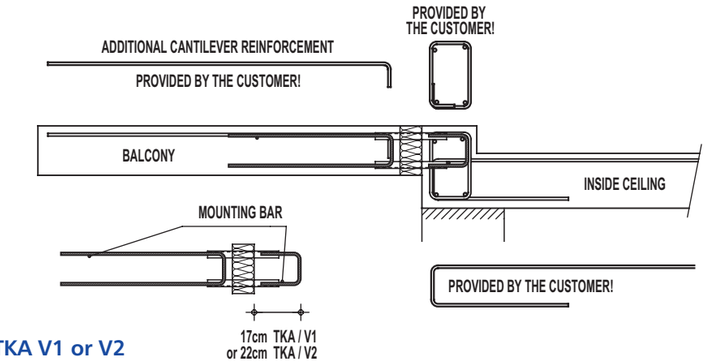
Parapet wall connections (Type AVI-AT/2 or TKA R1).
This sheet calculates the vertical connection of a parapet wall. Cutting forces (moment, horizontal and vertical force) per meter are required for calculation.

Corbel connections (AVI-TKM and AVI-TKA).
The final cutting forces along the 3 axes need to be provided as a load for corbels.

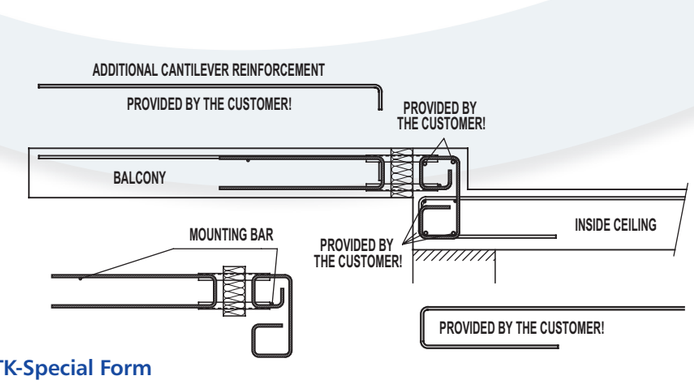
The user can provide the cutting forces in all calculation sheets with or without partial safety factors in accordance with ÖNORM B 4700. The result printout includes the proof of structural safety for the AVI-NIRO Thermokorb element and the necessary starter bars in the reinforced concrete slab.

AVI-Thermokorb Special Solutions

Balconies with level changes

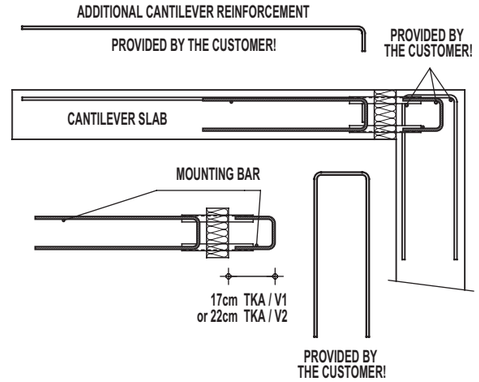


1st Option: Type TKA V1 or V2

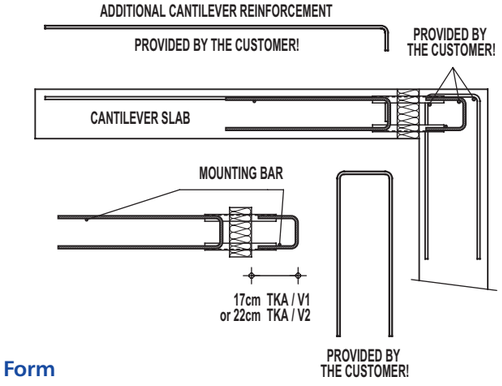


2nd Option: Type TK-Special Form

Cantilever Slab Connections on Walls



1st Option: Type TKA V1 or V2



2nd Option: Type TK-Special Form

Thermal Properties of AVI-NIRO Thermokorb

With R90 Fire Rating

Thermal conductivity coefficient LAMBDA = λ=0.031[W/mK]

Equivalent Insulation Conductivity λ_{eq} [W/mK] = $\Sigma\lambda i \cdot Ai / \Sigma Ai$

λ_{NIRO} = 15 [W/mK] A_{NIRO} = 2.05 [cm²/Profil]

$\lambda_{Lambdapor}$ = 0,031 [W/mK]

λ_{R90} = 0,175 [W/mK]

Slab Thickness	Rib Height	Number of Ribs Per Metre							
[m]	[m]	2	3	4	5	6	7	8	9
0.16	0.11	0.153	0.191	0.230	0.268	0.307	0.345	0.384	0.422
0.18	0.13	0.139	0.174	0.208	0.242	0.276	0.310	0.344	0.379
0.20	0.15	0.129	0.159	0.190	0.221	0.252	0.282	0.313	0.344
0.22	0.17	0.120	0.148	0.176	0.204	0.231	0.259	0.287	0.315
0.25	0.17	0.109	0.134	0.158	0.183	0.207	0.232	0.257	0.281

Insulation Thickness R_{eq} [m²K/W] = d/λ_{eq}

Slab Thickness	Rib Height	Number of Ribs Per Metre							
[m]	[m]	2	3	4	5	6	7	8	9
0.16	0.11	0.523	0.418	0.348	0.298	0.261	0.232	0.209	0.190
0.18	0.13	0.574	0.461	0.385	0.331	0.290	0.258	0.232	0.211
0.20	0.15	0.623	0.502	0.421	0.362	0.318	0.283	0.256	0.233
0.22	0.17	0.669	0.542	0.456	0.393	0.346	0.308	0.278	0.254
0.25	0.17	0.734	0.599	0.506	0.438	0.386	0.345	0.312	0.284

Without R90 Fire Rating

Thermal conductivity coefficient LAMBDA = λ=0.031[W/mK]

Equivalent Insulation Conductivity λ_{eq} [W/mK] = $\Sigma\lambda i \cdot Ai / \Sigma Ai$

λ_{NIRO} = 15 [W/mK] A_{NIRO} = 2.05 [cm²/Profil]

$\lambda_{Lambdapor}$ = 0,031 [W/mK]

Slab Thickness	Rib Height	Number of Ribs Per Metre							
[m]	[m]	2	3	4	5	6	7	8	9
0.16	0.11	0.108	0.146	0.185	0.223	0.262	0.300	0.339	0.377
0.18	0.13	0.099	0.134	0.168	0.202	0.236	0.270	0.304	0.339
0.20	0.15	0.093	0.123	0.154	0.185	0.216	0.246	0.277	0.308
0.22	0.17	0.087	0.115	0.143	0.171	0.199	0.227	0.255	0.283
0.25	0.17	0.080	0.105	0.129	0.154	0.179	0.203	0.228	0.252

Insulation Thickness R_{eq} [m²K/W] = d/λ_{eq}

Slab Thickness	Rib Height	Number of Ribs Per Metre							
[m]	[m]	2	3	4	5	6	7	8	9
0.16	0.11	0.742	0.547	0.433	0.358	0.306	0.267	0.236	0.212
0.18	0.13	0.805	0.599	0.477	0.396	0.339	0.296	0.263	0.236
0.20	0.15	0.865	0.649	0.519	0.433	0.371	0.325	0.289	0.260
0.22	0.17	0.921	0.696	0.560	0.468	0.403	0.353	0.314	0.283
0.25	0.17	0.998	0.763	0.618	0.519	0.448	0.394	0.351	0.317