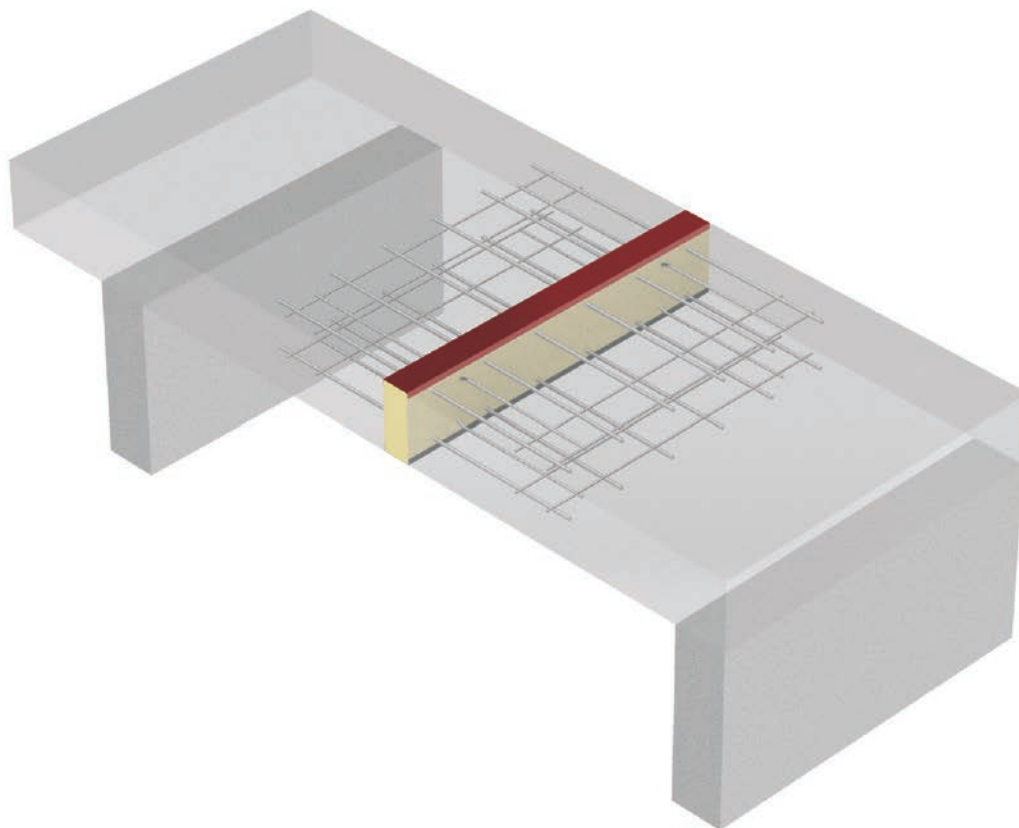


■ **KP-1400 BALCONY CONNECTOR FOR CONTINUOUS CONNECTION OF THE BALCONY SLAB WITH THE CEILING SLAB**

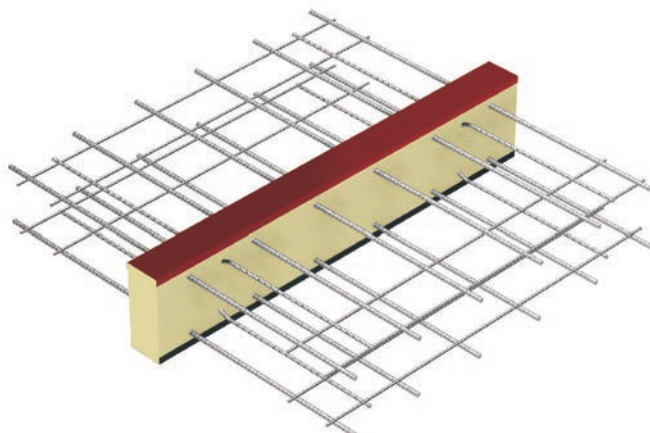


- standard elements for ceilings of thickness between 160 mm and 300 mm
- standard insulation thickness 80 mm; options: 60 mm, 100 mm, 120 mm
- insulation type: mineral wool (WM) or styrofoam (XPS)
- expanded tension rod of ordinary heat galvanised carbon steel
- stainless steel rod

Marking example:

KP-1404, 6, x 10, - 2, h=200 mm, XPS80, L=1000 mm

connector quantity bar quantity
 type of bars diameter of rod

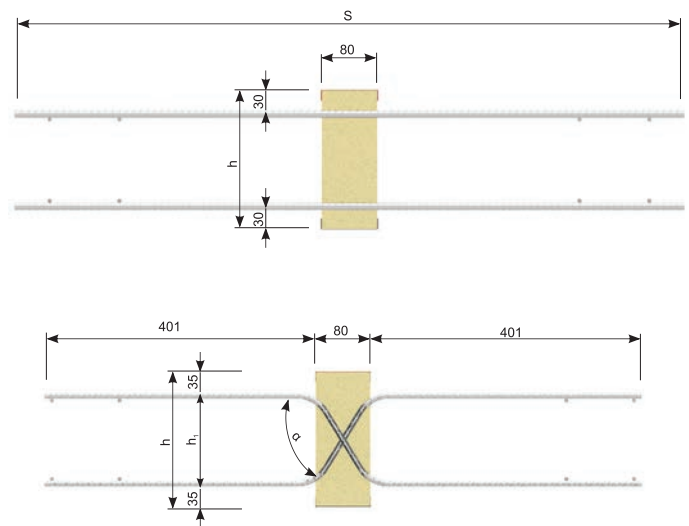
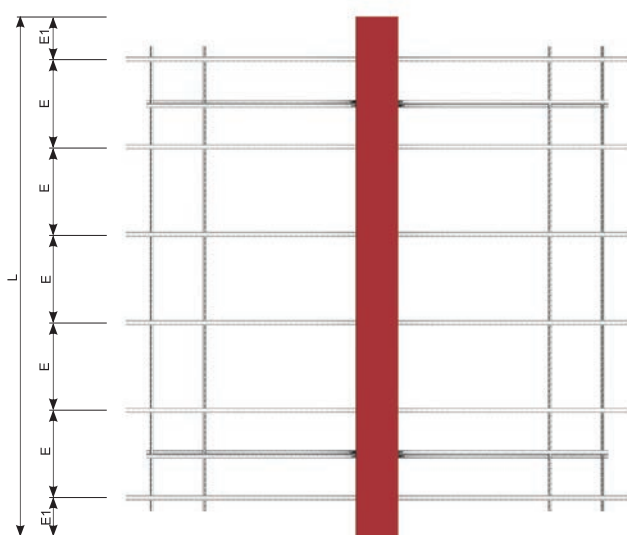


KP-1404 balcony connector (6 x 10 - 2)

KP-1400 BALCONY CONNECTOR - 20 and 30 cm module

 Concrete class: $\geq C25/30$

Symbol	h [mm]	h ₁ [mm]	Bar diameter ϕ [mm]	Quantity		$M_{rd} (\pm)$ [kNm]	Insulation 80 mm			Insulation 120 mm			Dimension [mm]		
				Bars	Rod		$V_{rd} (+)$ [kN]	Rigidity k [kNm/rad]	Ψ [W/mK]	$V_{rd} (+)$ [kN]	Rigidity k [kNm/rad]	Ψ [W/mK]	S	E	E1
KP-1401 2x10-1 L=200 mm	160	90	10	2	1+1	5	15	219	0,084	12	182	0,066	820	100	50
	180	110	10	2	1+1	7	17	342	0,085	14	285	0,067	820	100	50
	200	130	10	2	1+1	8	19	492	0,086	16	410	0,068	820	100	50
	220	150	10	2	1+1	10	21	670	0,087	18	558	0,069	820	100	50
	240	170	10	2	1+1	11	22	875	0,088	19	729	0,070	820	100	50
	260	190	10	2	1+1	12	23	1 108	0,088	21	923	0,070	820	100	50
	280	210	10	2	1+1	14	24	1 368	0,089	22	1 140	0,071	820	100	50
	300	230	10	2	1+1	15	24	1 655	0,090	23	1 379	0,072	820	200	50
KP-1402 2x14-2 L=300 mm	160	90	14	2	2+2	10	30	387	0,119	24	322	0,088	1050	200	50
	180	110	14	2	2+2	13	35	617	0,122	29	514	0,093	1050	200	50
	200	130	14	2	2+2	16	39	901	0,125	33	751	0,098	1050	200	50
	220	150	14	2	2+2	18	42	1 239	0,128	36	1 033	0,103	1050	200	50
	240	170	14	2	2+2	21	44	1 630	0,130	39	1 359	0,108	1050	200	50
	260	190	14	2	2+2	24	46	2 075	0,133	41	1 729	0,113	1050	200	50
	280	210	14	2	2+2	26	48	2 573	0,135	43	2 145	0,118	1050	200	50
	300	230	14	2	2+2	29	49	3 125	0,138	45	2 605	0,123	1050	200	50

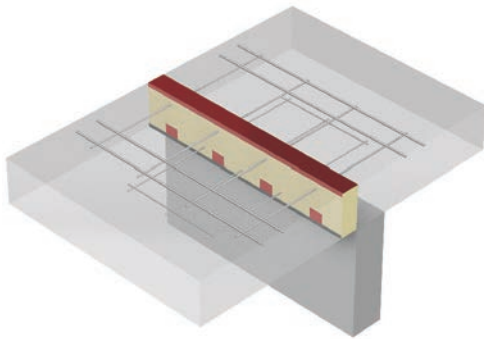


KP-1400 BALCONY CONNECTOR - element 100 cm													Concrete class: \geq C25/30		
Symbol	h [mm]	h ₁ [mm]	Bar diameter ϕ [mm]	Quantity		M _{rd} (\pm) [kNm]	Insulation 80 mm			Insulation 120 mm			Dimension [mm]		
				Bars	Rod		V _{rd} (+) [kN]	Rigidity k [kNm/rad]	Ψ [W/mK]	V _{rd} (+) [kN]	Rigidity k [kNm/rad]	Ψ [W/mK]	S	E	E1
KP-1403 4x10-1 L=1000 mm	160	90	10	4	1+1	11	15	437	0,185	12	364	0,127	820	250	125
	180	110	10	4	1+1	14	17	683	0,188	14	569	0,130	820	250	125
	200	130	10	4	1+1	16	19	983	0,191	16	820	0,133	820	250	125
	220	150	10	4	1+1	19	21	1 339	0,193	18	1 115	0,135	820	250	125
	240	170	10	4	1+1	22	22	1 748	0,195	19	1 457	0,137	820	250	125
	260	190	10	4	1+1	25	23	2 213	0,197	21	1 844	0,140	820	250	125
	280	210	10	4	1+1	27	24	2 732	0,199	22	2 277	0,142	820	250	125
300	230	10	4	1+1	30	24	3 305	0,201	22	2 755	0,144	820	250	125	
KP-1404 6x10-2 L=1000 mm	160	90	10	6	2+2	16	30	656	0,257	24	546	0,197	820	167	83
	180	110	10	6	2+2	20	35	1 024	0,261	29	854	0,199	820	167	83
	200	130	10	6	2+2	25	39	1 475	0,265	33	1 229	0,201	820	167	83
	220	150	10	6	2+2	29	42	2 008	0,267	36	1 673	0,203	820	167	83
	240	170	10	6	2+2	33	44	2 623	0,269	39	2 185	0,205	820	167	83
	260	190	10	6	2+2	37	46	3 319	0,272	41	2 766	0,208	820	167	83
	280	210	10	6	2+2	41	48	4 098	0,274	43	3 415	0,210	820	167	83
300	230	10	6	2+2	45	49	4 958	0,276	45	4 132	0,212	820	167	83	
KP-1405 4x14-3 L=1000 mm	160	90	14	4	3+3	20	45	774	0,285	37	645	0,238	1050	250	125
	180	110	14	4	3+3	26	52	1 235	0,290	43	1 029	0,239	1050	250	125
	200	130	14	4	3+3	31	58	1 803	0,294	49	1 502	0,240	1050	250	125
	220	150	14	4	3+3	36	62	2 478	0,296	54	2 065	0,240	1050	250	125
	240	170	14	4	3+3	42	66	3 261	0,299	58	2 717	0,241	1050	250	125
	260	190	14	4	3+3	47	69	4 150	0,301	62	3 458	0,241	1050	250	125
	280	210	14	4	3+3	53	71	5 147	0,304	65	4 289	0,242	1050	250	125
300	230	14	4	3+3	58	73	6 251	0,306	67	5 209	0,242	1050	250	125	
KP-1406 5x14-3 L=1000 mm	160	90	14	5	3+3	25	45	967	0,278	37	806	0,278	1050	200	100
	180	110	14	5	3+3	32	52	1 543	0,280	43	1 286	0,280	1050	200	100
	200	130	14	5	3+3	39	58	2 254	0,282	49	1 878	0,282	1050	200	100
	220	150	14	5	3+3	46	62	3 098	0,284	54	2 581	0,284	1050	200	100
	240	170	14	5	3+3	52	66	4 076	0,286	58	3 396	0,286	1050	200	100
	260	190	14	5	3+3	59	69	5 188	0,287	62	4 323	0,287	1050	200	100
	280	210	14	5	3+3	66	71	6 434	0,289	65	5 361	0,289	1050	200	100
300	230	14	5	3+3	72	73	7 814	0,291	67	6 511	0,291	1050	200	100	
KP-1407 6x14-4 L=1000 mm	160	90	14	6	4+4	31	60	1 161	0,334	49	967	0,334	1050	167	83
	180	110	14	6	4+4	39	69	1 852	0,335	58	1 543	0,335	1050	167	83
	200	130	14	6	4+4	47	77	2 704	0,336	66	2 254	0,336	1050	167	83
	220	150	14	6	4+4	55	83	3 717	0,337	72	3 098	0,337	1050	167	83
	240	170	14	6	4+4	63	88	4 891	0,338	78	4 076	0,338	1050	167	83
	260	190	14	6	4+4	71	92	6 225	0,339	83	5 188	0,339	1050	167	83
	280	210	14	6	4+4	79	95	7 720	0,340	86	6 434	0,340	1050	167	83
300	230	14	6	4+4	87	98	9 376	0,341	90	7 814	0,341	1050	167	83	
KP-1408 8x14-4 L=1000 mm	160	90	14	8	4+4	41	60	1 548	0,417	49	1 290	0,417	1050	125	63
	180	110	14	8	4+4	51	69	2 470	0,418	58	2 058	0,418	1050	125	63
	200	130	14	8	4+4	62	77	3 606	0,419	66	3 005	0,419	1050	125	63
	220	150	14	8	4+4	73	83	4 956	0,420	72	4 130	0,420	1050	125	63
	240	170	14	8	4+4	84	88	6 521	0,422	78	5 434	0,422	1050	125	63
	260	190	14	8	4+4	94	92	8 300	0,423	83	6 917	0,423	1050	125	63
	280	210	14	8	4+4	105	95	10 294	0,425	86	8 578	0,425	1050	125	63
300	230	14	8	4+4	116	98	12 502	0,426	90	10 418	0,426	1050	125	63	
KP-1409 10x14-5 L=1000 mm	160	90	14	10	5+5	51	75	1 935	0,490	61	1 612	0,490	1050	100	50
	180	110	14	10	5+5	64	87	3 087	0,492	72	2 572	0,492	1050	100	50
	200	130	14	10	5+5	78	96	4 507	0,494	82	3 756	0,494	1050	100	50
	220	150	14	10	5+5	91	104	6 195	0,496	90	5 163	0,496	1050	100	50
	240	170	14	10	5+5	105	110	8 151	0,499	97	6 793	0,499	1050	100	50
	260	190	14	10	5+5	118	115	10 375	0,501	103	8 646	0,501	1050	100	50
	280	210	14	10	5+5	131	119	12 867	0,504	108	10 723	0,504	1050	100	50
300	230	14	10	5+5	145	122	15 627	0,506	112	13 023	0,506	1050	100	50	

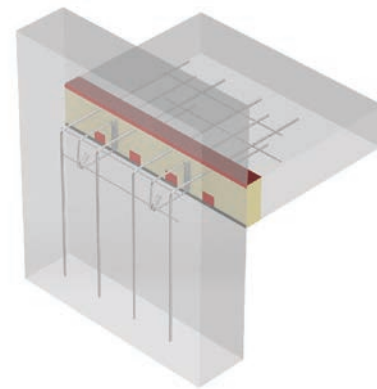
■ ATYPICAL ELEMENTS

Non-standard solutions:

The Ebea balcony connector consist of standard elements, which usually may be adapted to individual needs of a particular structure.

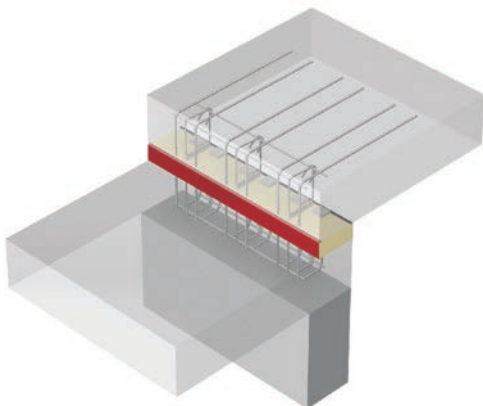


Type A noise dampening

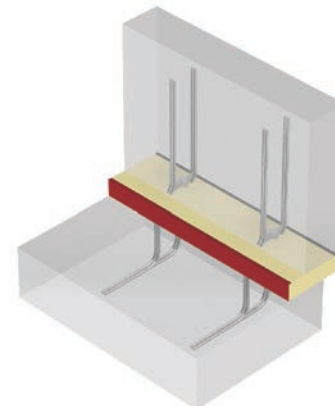


Type B connection wall-roof

Unusual loads:

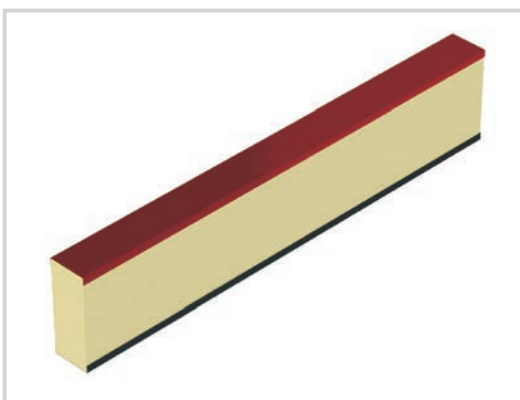


Type C-elements for add-on balconies



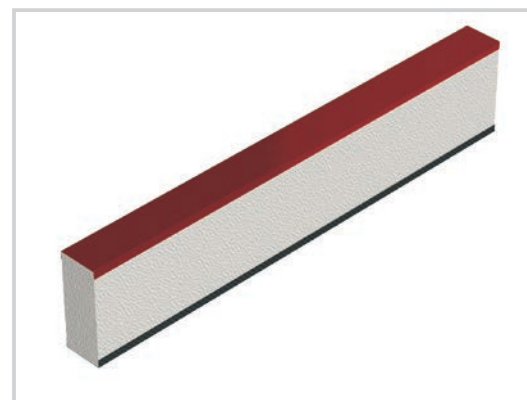
Type D-elements for shifted sub-window walls (bannisters)

■ INSULATION TYPES



Mineral wool:

- standard thickness 80 mm
- optional 60, 100, 120 mm
- thermal conductivity coefficient $\lambda=0,040$ W/mK

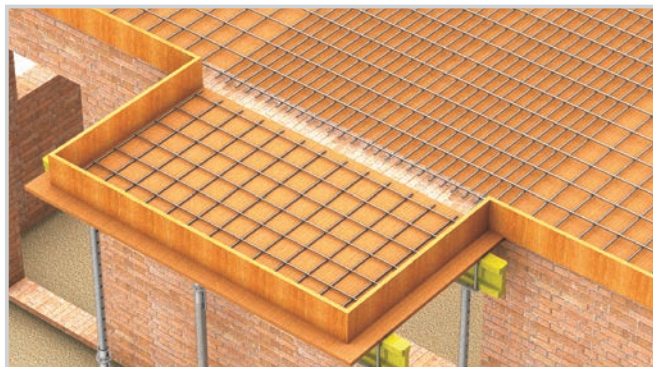


Styrofoam:

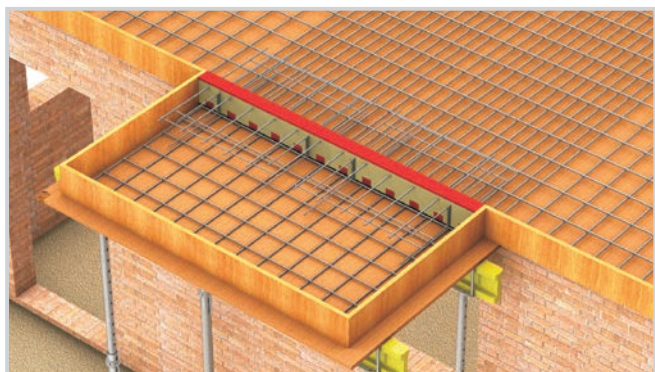
- standard thickness 80 mm
- optional 60, 100, 120 mm
- thermal conductivity coefficient $\lambda=0,036$ W/mK

■ ASSEMBLY SUGGESTIONS

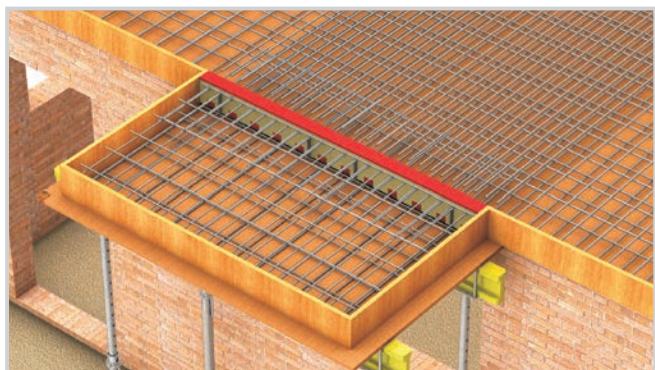
1. Lay down the lower reinforcement and the reinforcement of balcony slab.



2. Lay out and affix KP connector.



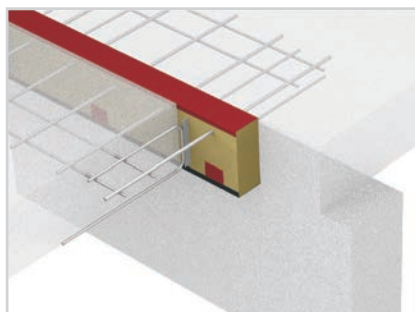
3. Lay out upper reinforcement of ceiling and balcony slab, tie with tie rod to the of KP connector bars.



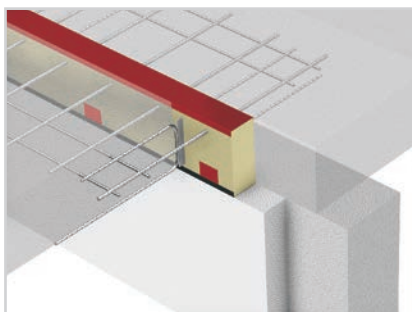
Note:

In order to ensure that the placement of the KP connector remains unchanged during concreting, fill equally and compress the concrete mix.

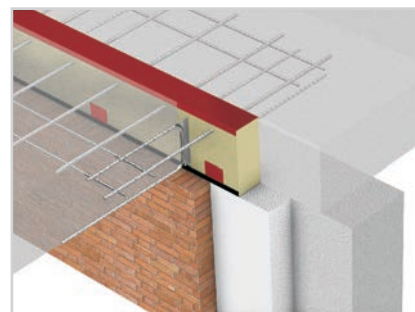
■ INSTALLATION CONDITIONS FOR JOINTS.



Single leaf masonry



Single leaf masonry with insulation



Double leaf masonry

■ **CHOSEN REALIZATIONS**

HOUSING ALBATROSS TOWERS IN GDANSK

Sale and supply of balcony connectors

General contractor:

BAUHAUS sp. z o.o.



RESIDENTIAL AND COMMERCIAL BUILDING SUN GARDEN IN RADOM

Sale and supply of balcony connectors

General contractor:

Country Homes Sp. z o.o.



HOUSING SUNNY MORENA - GDANSK MORENA

Sale and supply of balcony connectors

General contractor:

MAREX BUDOWNICTWO Sp. z o.o.



HOUSING LAVENDER HILL – GDANSK JASIEN

Sale and supply of balcony connectors

General contractor:

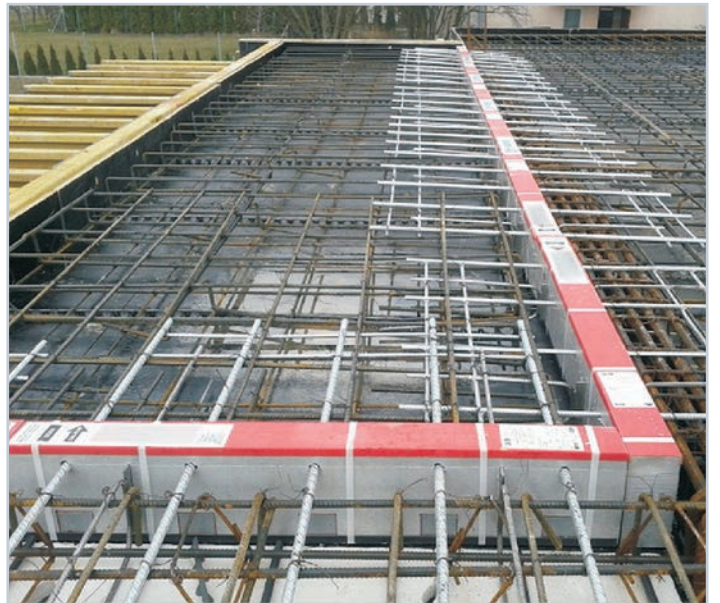
MAREX BUDOWNICTWO Sp. z o.o.



GALLERY



GALLERY



NOTES

NOTES

A large grid of graph paper for taking notes, consisting of 20 columns and 30 rows of small squares.





FORBUILD SA
ul. Górna 2a
26-200 Końskie, Poland
tel.: +48 41 375 1347
fax: +48 41 375 1348
forbuild@forbuild.eu
www.forbuild.eu