KAUFMANN

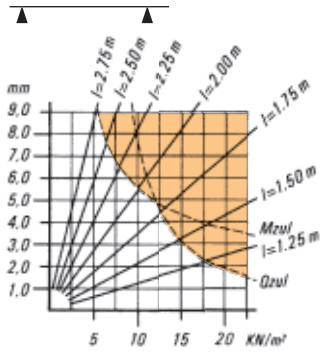
HT20Plus table of dimensions

Permissible distances between main beams and supports

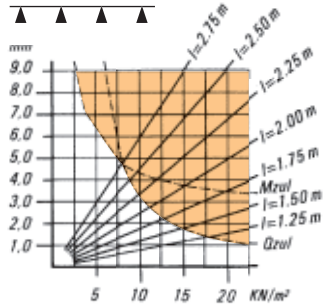
- Max. deflection: l/500
- Live load: 1.5 kN/m² or 20 % of concrete weight
- Permissible carrying force of the supports: min. 22 kN
- Technical specifications: permissible moment = 5.0 kNm permissible surface load (q) = 11.0 kN

Floor thickness	Total load	Table 1: **Crossbeams** Distance between crossbeams (m)				Table 2: **Main beams** Selected distance between the main beams (m)								
cm	KN/m²	0,50	0,625	0,667	0,75	1,00	1,25	1,50	1,75	2,00	2,25	2,50	3,00	3,50
		Max. permissible support width of the cross-beam = max. distance between main beams				Max. permissible support width = distance between supports								
10	4,35	3,67	3,40	3,33	3,20	2,91	2,70	2,48	2,29	2,14	2,02	1,92	1,69	1,44
12	4,87	3,47	3,22	3,15	3,03	2,75	2,55	2,34	2,17	2,03	1,91	1,81	1,51	1,29
14	5,39	3,30	3,07	3,00	2,89	2,62	2,43	2,22	2,06	1,93	1,81	1,63	1,36	1,17
16	5,91	3,17	2,94	2,88	2,77	2,52	2,33	2,12	1,97	1,84	1,65	1,49	1,24	1,06
18	6,43	3,05	2,83	2,77	2,67	2,42	2,23	2,04	1,89	1,71	1,52	1,37	1,14	0,98
20	6,95	2,95	2,74	2,68	2,58	2,34	2,15	1,96	1,81	1,58	1,41	1,27	1,06	0,90
22	7,47	2,86	2,66	2,60	2,50	2,27	2,07	1,89	1,68	1,47	1,31	1,18	0,98	0,84
24	7,99	2,79	2,59	2,53	2,43	2,21	2,00	1,83	1,57	1,38	1,22	1,10	0,92	0,79
26	8,51	2,72	2,52	2,47	2,37	2,16	1,94	1,72	1,48	1,29	1,15	1,03	0,86	0,74
28	9,03	2,65	2,46	2,41	2,32	2,10	1,88	1,62	1,39	1,22	1,08	0,97	0,81	0,70
30	9,61	2,59	2,41	2,36	2,27	2,04	1,82	1,53	1,31	1,14	1,02	0,92	0,76	0,65
35	11,17	2,47	2,29	2,24	2,16	1,89	1,58	1,31	1,13	0,98	0,88	0,79	0,66	0,56
40	12,73	2,36	2,19	2,15	2,05	1,73	1,38	1,15	0,99	0,86	0,77	0,69	0,58	0,49
45	14,29	2,27	2,11	2,05	1,93	1,54	1,23	1,03	0,88	0,77	0,68	0,62	0,51	0,44
50	15,85	2,20	2,01	1,95	1,83	1,39	1,11	0,93	0,79	0,69	0,62	0,56	0,46	0,40
55	17,41	2,13	1,92	1,86	1,68	1,26	1,01	0,84	0,72	0,63	0,56	0,51	0,42	0,36
60	18,97	2,05	1,84	1,74	1,55	1,16	0,93	0,77	0,66	0,58	0,52	0,46	0,39	0,33
65	20,53	1,97	1,71	1,61	1,43	1,07	0,86	0,71	0,61	0,54	0,48	0,43	0,36	0,31
70	22,09	1,90	1,59	1,49	1,33	1,00	0,80	0,66	0,57	0,50	0,44	0,40	0,33	0,28
75	23,65	1,84	1,49	1,40	1,24	0,93	0,74	0,62	0,53	0,47	0,41	0,37	0,31	0,27
80	25,21	1,75	1,40	1,31	1,16	0,87	0,70	0,58	0,50	0,44	0,39	0,35	0,29	0,25
85	26,77	1,64	1,31	1,23	1,10	0,82	0,66	0,55	0,47	0,41	0,37	0,33	0,27	0,23
90	28,33	1,55	1,24	1,16	1,04	0,78	0,62	0,52	0,44	0,39	0,35	0,31	0,26	0,22
95	29,89	1,47	1,18	1,10	0,98	0,74	0,59	0,49	0,42	0,37	0,33	0,29	0,25	0,21
100	31,45	1,40	1,12	1,05	0,93	0,70	0,56	0,47	0,40	0,35	0,31	0,28	0,23	0,20

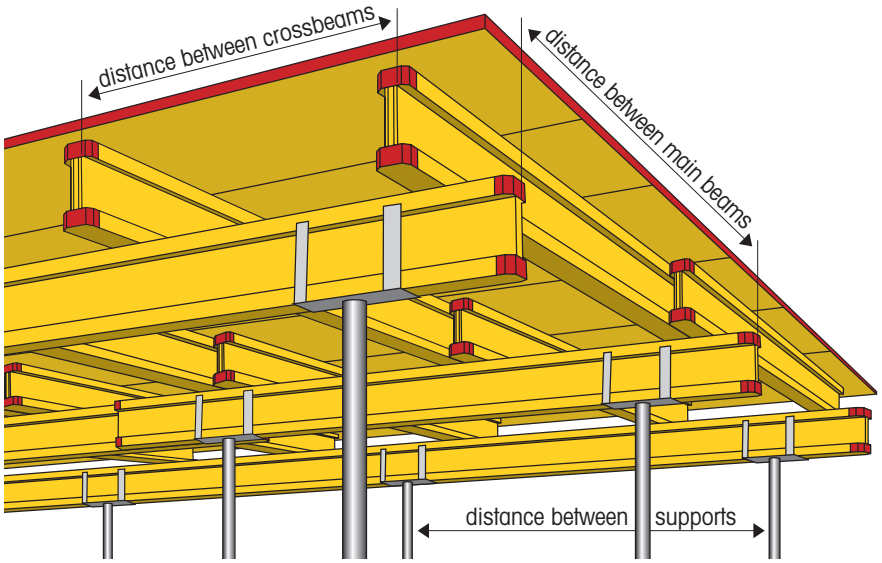
Single span beam



Multispan beam



Example of calculation: Ceiling strength: 20 cm, distance between crossbeams: 75 cm; we are looking for the distance between main beams and supports: permissible distance between main beams according to table 1 **= 2,58 m.** The identical or next smaller distance between main beams in table 2 **= 2,5 m.** Look for the permissible distance between supports in table 2, in column 2,5 depending on the ceiling strength (20 cm) **= 1,27 m.** Caution! Examine the supports to ensure the corresponding carrying force.



HT20Plus formwork timber beam

Technical specifications

Product
- Wooden formwork beams, glued, solid I-beams

Chords
- Made of carefully selected class S 10 spruce wood according to DIN 4074
- Finger-jointed, high grade, solid whitewood
- Finger-joints and glueing according to DIN 68140-1
- Planed and chamfered with approx. 0.4 mm

Webs
- 3-ply solid wood panel, laminated
- Primarily showing vertical growth rings

Construction approval
- Institute for structural engineering, Berlin, approval notice Z-9.1-146
- Institute for quality and materials testing, Baden-Württemberg

Design
The design of the Kaufmann HT20Plus wooden formwork beam is based on the construction approval Z-9.1-146, in particular DIN 1052-1 and DIN 4421 – supporting structures; calculation, construction and implementation:
- Modulus of elasticity E 11,000 N/mm²
- Shear modulus G 600 N/mm²

Wood types
- Spruce, fir, a mixture of wood species permitted

Glueing
- 3-ply solid wood panel, veneer panel 100 (AW 100) pursuant to Austrian standard B 3023
- Finger-joints between chords and webs pursuant to approval notice Z-9.1-146

Wood moisture
- Approx. 12 % +/- 3 % at the time of delivery

Standard lengths
- 2.45 / 2.90 / 3.30 / 3.60 / 3.90 / 4.50 / 4.90 / 5.90 m
- Max. length: 10.0 m

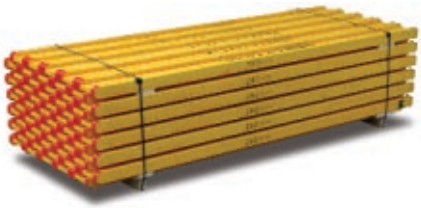
Weight
- 4,8 kg/m

Surface protection
- The complete beam is waterproofed using a water-repellent colour glaze

Support
- Thanks to the 3-ply solid wood webs, HT20Plus formwork beams can be cut into and supported at any lengths

Package units
- 60 or 100 pieces per package

Packaging
- The packages are delivered suitable for the construction site and protected by integrated supporting timber

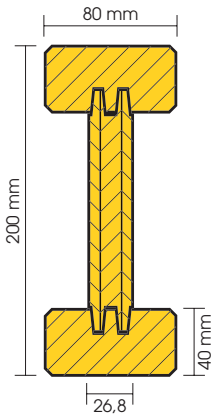


Standard package: 60 pieces

Container package: 100 pieces


DEUTSCHES INSTITUT FÜR BAUTECHNIK

Allgemeine bauaufsichtliche Zulassung



Dimensions and tolerances

Dimensions[1]	HT20Plus	Tolerances[2]
Beam height (mm)	200	+/- 2 mm
Chord height (mm)	40	- 1,5 %
Chord width (mm)	80	- 1,5 %
Web thickness (mm)	26,8	+/- 0,5 mm

[1] these values apply at a wood moisture content of 12 %
[2] pursuant to approval notice Z-9.1-146

Technical specifications

	HT20Plus
Permissible modulus M (kNm)	5,0
Permissible shearing force Q (kN)	11,0
Section modulus[1] W_X (cm³)	461
Geometrical moment of inertia[1] J_X (cm⁴)	4613

[1] The values of the section modulus and the geometrical moment of inertia apply to new or used concrete formwork beams. An analogously increased factor of safety needs to be added for severely worn beams.

KAUFMANN

*The shock-resistant, bevelled **protective cap** made of synthetic materials provides protection from splintering at the chord ends, significantly increasing durability*

*Indestructible **finger-joints** between chords and webs*

*The **Webs** made of 3-ply, laminated solid wood panels ensure high carrying capacity for continuous use in all climate zones*

*The **chords** are made of superior quality, selected solid wood with friction-fitted finger-joints, smoothly surfaced and slightly chamfered*

*The length and production date printed on the top side provide unique **labelling** of the HT20plus timber beams*

*Guaranteed **safety** based on certified quality by the German Institute for structural engineering in Berlin, construction supervision approval notice Z-9.1-146*

The Kaufmann HT20plus formwork timber beam is a solid I-beam used for concrete formwork construction. The height of the beam is 20 cm and it is available in different standard lengths. The patented, stable synthetic cap prevents premature splintering at the highly sensitive chord ends. Moreover, the superior quality solid wood chords combined with triple laminated solid wood webs guarantee the above-average durability of the HT20plus.

Our customers all over the world rely on this quality product "made in Austria". It will also meet your requirements – you can count on it!

KHT20 Plus formwork timber beam

The formwork timber beam featuring the worldwide unique protective cap system