ARUNDA

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Table of working loads – Dimensioning of dovetail assembly

Vd1 : Dimensioning according to the shearing effort of the joist tail
Vd2: Dimensioning according to the bed on the stringer

Vd1 = 2/3 · Az · zulŤQ where: Az = ((b1+b2)/2·(he-12.5))+ π (12.5²)/4+((b2-25)·12.5) *
zulŤQ = 0.9 N/mm2: tangential constraint due to the shearing action according to DIN 1052-1 table 5

Vd2 = 0.09 ·a where: 0.09 (kN/mm)= empirical coeff., where = hsom he - He + b2/2 resisting " length" (mm) * 12.5 = 12.5mm geometrical value

The values of Vd1 and Vd2 are indicative. They correspond to real loads, without coefficient.
***These indicative values do not incur the liability of the manufacturer**.*

Tail H: maximum tail height (mm)	**he**: tail height or cut-out against joist (mm)	**hsol max** ≤2 · He
hsol: joist height (mm)	**b**: joist width (mm)	**hsom min** = 1.2 · tail H
hsom min: total minimum stringer height (mm)	**b1**: maximum variable tail width (mm)	**b2**: variable minimal tail width (mm)

Minimum stringer width bs: bs = 80 mm if cut-out on one side bs = 120 mm if cut-out on both sides			Jig ***Arunda N° 60*** *Joist width 60 to 80 (100) mm x height 90 to 260 (280) mm*		Jig ***Arunda n° 80*** *Joist width 80 to 120 (140) mm x height 90 to 260 (280) mm*		Jig ***Arunda n° 100*** *Joist width 100 to 140 (160) mm x height 90 to 260 (280) mm*		Jig ***Arunda n° 120*** *Joist width 120 to 160 (180) mm x height 90 to 260 (280) mm*		Jig ***Arunda n° 160+*** *Joist width 160 to 300 mm x height 90 to 420* mm	
			The lesser working load of Vd1 and Vd2 will be taken to calculate the loads **1 kN = 100 kg**									
Tail h (mm)	**hsol** (mm)	**hsom min** (mm)	***Vd1*** *(kN)*	**Vd2** (kN)	***Vd1*** *(kN)*	**Vd2** (kN)	***Vd1*** *(kN)*	**Vd2** (kN)	***Vd1*** *(kN)*	**Vd2** (kN)	***Vd1*** *(kN)*	**Vd2** (kN)
300	**420**	**420**	-	-	-	-	-	-	-	-	*23.98*	**16.92**
300	**300-360**	**360**	-	-	-	-	-	-	-	-	*23.98*	**11.52**
290	**400**	**400**	-	-	-	-	-	-	-	-	*23.02*	**16.02**
290	**300-340**	**348**	-	-	-	-	-	-	-	-	*23.02*	**11.34**
280	**400**	**400**	-	-	-	-	-	-	-	-	*22.08*	**16.92**
280	**280-330**	**336**	-	-	-	-	-	-	-	-	*22.08*	**11.16**
270	**380**	**380**	-	-	-	-	-	-	-	-	*21.14*	**16.02**
270	**280-320**	**324**	-	-	-	-	-	-	-	-	*21.14*	**10.98**
260	**360**	**360**	-	-	-	-	-	-	-	-	*20.21*	**15.12**
260	**260-310**	**312**	-	-	-	-	-	-	-	-	*20.21*	**10.80**
250	**340**	**340**	-	-	-	-	-	-	-	-	*19.29*	**14.22**
250	**260-300**	**300**	-	-	-	-	-	-	-	-	*19.29*	**10.62**
240	**320**	**320**	-	-	-	-	-	-	-	-	*18.38*	**13.32**
240	**240-280**	**288**	-	-	-	-	-	-	-	-	*18.38*	**10.44**
230	**300**	**300**	-	-	-	-	-	-	-	-	*17.47*	**12.42**
230	**240-270**	**276**	-	-	-	-	-	-	-	-	*17.47*	**10.26**
220	**280**	**280**	-	-	-	-	-	-	-	-	*16.57*	**11.52**
220	**220-260**	**264**	-	-	-	-	-	-	-	-	*16.57*	**10.08**
210	**280**	**280**	-	-	-	-	-	-	-	-	*15.69*	**12.42**
210	**220-250**	**252**	-	-	-	-	-	-	-	-	*15.69*	**9.90**
200	**260**	**260**	*4.49*	**7.33**	*7.24*	**8.34**	*9.56*	**9.24**	*11.87*	**10.14**	*14.80*	**11.52**
200	**200-240**	**240**	*4.49*	**5.53**	*7.24*	**6.54**	*9.56*	**7.44**	*11.87*	**8.34**	*14.80*	**9.72**
190	**240**	**240**	*4.17*	**6.43**	*6.79*	**7.44**	*8.98*	**8.34**	*11.17*	**9.24**	*13.93*	**10.62**
190	**200-220**	**228**	*4.17*	**5.35**	*6.79*	**6.36**	*8.98*	**7.26**	*11.17*	**8.16**	*13.93*	**9.54**
180	**240**	**240**	*3.87*	**7.33**	*6.34*	**8.34**	*8.41*	**9.24**	*10.48*	**10.14**	*13.07*	**11.52**
180	**180-220**	**220**	*3.87*	**5.53**	*6.34*	**6.54**	*8.41*	**7.44**	*10.48*	**8.34**	*13.07*	**9.72**
170	**220**	**220**	*3.57*	**6.43**	*5.89*	**7.44**	*7.85*	**8.34**	*9.80*	**9.24**	*12.21*	**10.62**
170	**180-200**	**204**	*3.57*	**4.99**	*5.89*	**6.00**	*7.85*	**6.90**	*9.80*	**7.80**	*12.21*	**9.18**
160	**200**	**200**	*3.27*	**5.53**	*5.46*	**6.54**	*7.29*	**7.44**	*9.13*	**8.34**	*11.36*	**9.72**
160	**160-180**	**192**	*3.27*	**4.81**	*5.46*	**5.82**	*7.29*	**6.72**	*9.13*	**7.62**	*11.36*	**9.00**
150	**200**	**200**	*2.99*	**6.43**	*5.04*	**7.44**	*6.75*	**8.34**	*8.46*	**9.24**	*10.52*	**10.62**
150	**160-180**	**180**	*2.99*	**4.63**	*5.04*	**5.64**	*6.75*	**6.54**	*8.46*	**7.44**	*10.52*	**8.82**
140	**180**	**180**	*2.72*	**5.53**	*4.62*	**6.54**	*6.21*	**7.44**	*7.81*	**8.34**	*9.69*	**9.72**
140	**140-160**	**168**	*2.72*	**4.45**	*4.62*	**5.46**	*6.21*	**6.36**	*7.81*	**7.26**	*9.69*	**8.64**
130	**140-160**	**160**	*2.45*	**4.63**	*4.21*	**5.64**	*5.69*	**6.54**	*7.16*	**7.44**	*8.86*	**8.82**
120	**160**	**160**	*2.19*	**5.53**	*3.81*	**6.54**	*5.17*	**7.44**	*6.52*	**8.34**	*8.04*	**9.72**
120	**120-140**	**144**	*2.19*	**4.09**	*3.81*	**5.10**	*5.17*	**6.00**	*6.52*	**6.90**	*8.04*	**8.28**
110	**120-140**	**140**	*1.94*	**4.63**	*3.42*	**5.64**	*4.65*	**6.54**	*5.89*	**7.44**	*7.23*	**8.82**
100	**100-120**	**120**	*1.70*	**3.73**	*3.04*	**4.74**	*4.15*	**5.64**	*5.27*	**6.54**	*6.43*	**7.92**
90	**100**	**108**	*1.47*	**3.55**	*2.66*	**4.56**	*3.66*	**5.46**	*4.65*	**6.36**	*5.64*	**7.74**

1 kN = 100 kg