DECLARATION OF PERFORMANCE

NO. MWUK/FJI/321-001/CPR/DOP

1. PRODUCT-TYPE:
Finnjoist I-joist
- Light composite wood-based beam
- The flanges are made of LVL and the web of OSB board
- Structural adhesive Type I (EN 301)

2. INTENDED USES:
Load bearing parts of building constructions

3. MANUFACTURER:
Metsä Wood UK Limited
Crossbank road
Kings Lynn, Norfolk
PE30 2HD
United Kingdom
Tel. +44 (0) 1553 732 900
www.metsawood.com

5. SYSTEM OF ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE:
AVCP System 1

6b. EUROPEAN ASSESSMENT DOCUMENT:
EAD 130367-00-0304, Edition December 2018, published 2020

European Technical Assessment:
ETA 02/0026 (Issued 16/03/2021)

Technical Assessment Body:
Eurofins Expert Services Oy

Notified body:
Eurofins Expert Services Oy, Notified body No. 0809

Certificate of constancy of performance:
0809 - CPR - 20006447

7. DECLARED PERFORMANCES

ESSENTIAL CHARACTERISTICS	PERFORMANCE	
Mechanical resistance and stability		
Service class (EN 1995-1-1)	1 and 2	
Use class (EN 335)	1 and 2	
Mechanical properties	Mechanical properties of flanges and webs and standard cross sections are tabulated in Annex 1.	
Mechanical durability	Modification factors k_{mod} and deformation factors k_{def} according to Eurocode 5 are given in Annex 2.	
Dimensional stability	Dimensions	Tolerances
Overall joist depth	160 – 600 mm	± 1.5 mm
Overall joist length	up to 14000 mm	- 0 / + 10 mm
Flange width	38 – 96 mm	± 1.5 mm
Flange depth	36 – 45 mm	± 2 mm
Web thickness	9 – 12 mm	- 0.4 / + 1.6 mm
Seismic evaluation	Beams and columns use limited to non-dissipative or low-dissipative (q≤1.5) structures as defined in Eurocode 8, EN 1998-1:2004 clauses 1.5.2 and 8.1.3b	
Safety in case of fire		
Reaction to fire class, both web and flange materials	D-s2,d0 or better	
Hygiene, health and environment		
Dangerous substances	Do not contain with exception of formaldehyde	
Formaldehyde release, web and flange material	E1	
Energy economy and heat retention		
Thermal conductivity λ, web and flange material	0,13 W / (m K)	

The material values in this DoP are to be used for structural calculations with EN 1995 (Eurocode 5).

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

At Boston, Lincolnshire on 17.01.2023

Matti Pajula
Managing Director
Metsä Wood UK

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Lee Appleby
Operations Director
Metsä Wood UK

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ANNEX 1. MECHANICAL PROPERTIES OF FINNJOIST I-JOISTS

Table A1.1. Characteristic strength values and modulus of elasticity and rigidity values to be used in calculations for flanges and web. May be used to calculate the properties for non-standard cross sections.

PROPERTY	SYMBOL	VALUE (N/mm^2)
Characteristic bending strength of flanges	$f_{m.k}$	38.4
Characteristic tensile strength of flanges	$f_{t,0.k}$	28
Characteristic compression strength of flanges	$f_{c,0.k}$	28
Characteristic bending strength of web edgewise	$f_{mk,\ w}$	7.0
Characteristic shear strength, panel shear	$f_{v.k}$	7.6
Characteristic shear strength, planar shear	$f_{r.k}$	2.4
Characteristic modulus of elasticity of flanges	$E_{0,k,f}$	11600
Mean modulus of elasticity of flanges	$E_{mean,f}$	13800
Mean modulus of elasticity of web	$E_{mean,w}$	3000
Mean modulus of rigidity of web[1]	$G_{mean,w}$	1800

[1] Higher value may be used if OSB manufacturer has higher value certified.

Table A1.2. Characteristic values – 36 mm flange.

JOIST TYPE	Weight	Flange area	Web area	Bending moment capacity	Flexural rigidity (mean value)	Shear capacity	Shear rigidity (mean value)	Torsional rigidity (mean value)	Torsional capacity
		A_F	A_W	M_k	EI_{mean}	V_k	GA_{mean}	$GI_{T,mean}$	M_T
	kg/m	mm^2	mm^2	kNm	$x10^{12}$ Nmm^2	kN	$x10^6$ N	$x10^9$ Nmm^2	kNm
FJI 38x160-36	1.95	1266	996	4.574	0.145	7.694	2.592	0.3313	0.1031
FJI 45x160-36	2.21	1518	996	5.511	0.173	7.651	2.592	0.4014	0.1230
FJI 53x160-36	2.50	1806	996	6.576	0.204	7.616	2.592	0.4871	0.1474
FJI 58x160-36	2.68	1986	996	7.240	0.224	7.599	2.592	0.5405	0.1626
FJI 63x160-36	2.87	2166	996	7.893	0.243	7.585	2.592	0.5947	0.1781
FJI 69x160-36	3.09	2382	996	8.664	0.267	7.571	2.592	0.6602	0.1967
FJI 70x160-36	3.12	2418	996	8.793	0.271	7.569	2.592	0.6714	0.1999
FJI 89x160-36	3.82	3102	996	11.234	0.345	7.539	2.592	0.8875	0.2614
FJI 96x160-36	4.08	3354	996	12.134	0.373	7.531	2.592	0.9679	0.2843
FJI 38x200-36	2.19	1266	1356	6.021	0.252	10.127	3.240	0.3462	0.1113
FJI 45x200-36	2.44	1518	1356	7.246	0.299	10.059	3.240	0.4162	0.1312
FJI 53x200-36	2.74	1806	1356	8.638	0.354	10.004	3.240	0.5020	0.1556
FJI 58x200-36	2.92	1986	1356	9.506	0.388	9.978	3.240	0.5553	0.1708
FJI 63x200-36	3.10	2166	1356	10.360	0.422	9.956	3.240	0.6095	0.1863
FJI 69x200-36	3.32	2382	1356	11.367	0.462	9.934	3.240	0.6751	0.2049
FJI 70x200-36	3.36	2418	1356	11.535	0.469	9.931	3.240	0.6862	0.2081
FJI 89x200-36	4.06	3102	1356	14.727	0.598	9.883	3.240	0.9024	0.2696
FJI 96x200-36	4.32	3354	1356	15.903	0.646	9.870	3.240	0.9828	0.2925
FJI 38x220-36	2.31	1266	1536	6.759	0.317	11.369	3.564	0.3536	0.1154
FJI 45x220-36	2.56	1518	1536	8.129	0.376	11.286	3.564	0.4236	0.1353
FJI 53x220-36	2.86	1806	1536	9.686	0.445	11.219	3.564	0.5094	0.1597
FJI 58x220-36	3.04	1986	1536	10.657	0.487	11.186	3.564	0.5627	0.1749
FJI 63x220-36	3.22	2166	1536	11.612	0.530	11.160	3.564	0.6170	0.1904
FJI 69x220-36	3.44	2382	1536	12.739	0.581	11.133	3.564	0.6825	0.2090
FJI 70x220-36	3.48	2418	1536	12.927	0.589	11.129	3.564	0.6936	0.2122
FJI 89x220-36	4.18	3102	1536	16.496	0.751	11.070	3.564	0.9098	0.2737
FJI 96x220-36	4.43	3354	1536	17.811	0.811	11.054	3.564	0.9902	0.2966
FJI 38x240-36	2.42	1266	1716	7.507	0.390	12.626	3.888	0.3610	0.1195
FJI 45x240-36	2.68	1518	1716	9.022	0.463	12.525	3.888	0.4311	0.1394
FJI 53x240-36	2.97	1806	1716	10.744	0.546	12.444	3.888	0.5168	0.1638
FJI 58x240-36	3.16	1986	1716	11.818	0.599	12.406	3.888	0.5702	0.1790
FJI 63x240-36	3.34	2166	1716	12.875	0.651	12.373	3.888	0.6244	0.1945
FJI 69x240-36	3.56	2382	1716	14.121	0.713	12.341	3.888	0.6899	0.2131
FJI 70x240-36	3.60	2418	1716	14.329	0.724	12.336	3.888	0.7011	0.2163
FJI 89x240-36	4.30	3102	1716	18.277	0.922	12.265	3.888	0.9172	0.2778
FJI 96x240-36	4.55	3354	1716	19.732	0.995	12.246	3.888	0.9976	0.3007
FJI 38x300-36	2.78	1266	2256	9.799	0.657	16.467	4.860	0.3833	0.1318
FJI 45x300-36	3.04	1518	2256	11.753	0.779	16.316	4.860	0.4534	0.1517
FJI 53x300-36	3.33	1806	2256	13.973	0.918	16.184	4.860	0.5391	0.1761
FJI 58x300-36	3.51	1986	2256	15.358	1.005	16.121	4.860	0.5925	0.1913
FJI 63x300-36	3.70	2166	2256	16.719	1.092	16.068	4.860	0.6467	0.2068
FJI 69x300-36	3.92	2382	2256	18.326	1.197	16.015	4.860	0.7122	0.2254
FJI 70x300-36	3.96	2418	2256	18.594	1.214	16.007	4.860	0.7234	0.2286
FJI 89x300-36	4.65	3102	2256	23.682	1.545	15.892	4.860	0.9395	0.2901
FJI 96x300-36	4.91	3354	2256	25.556	1.667	15.861	4.860	1.0199	0.3130
FJI 45x360-36	3.39	1518	2796	14.556	1.182	18.616	5.832	0.4756	0.1640
FJI 53x360-36	3.69	1806	2796	17.276	1.392	19.360	5.832	0.5614	0.1884
FJI 58x360-36	3.87	1986	2796	18.972	1.523	19.826	5.832	0.6147	0.2036
FJI 63x360-36	4.05	2166	2796	20.640	1.654	19.836	5.832	0.6690	0.2191
FJI 69x360-36	4.28	2382	2796	22.608	1.811	19.757	5.832	0.7345	0.2377
FJI 70x360-36	4.31	2418	2796	22.936	1.837	19.745	5.832	0.7456	0.2409
FJI 89x360-36	5.01	3102	2796	29.167	2.334	19.573	5.832	0.9618	0.3024
FJI 96x360-36	5.27	3354	2796	31.463	2.518	19.527	5.832	1.0422	0.3253
FJI 45x400-36	3.63	1518	3156	16.462	1.502	20.085	6.480	0.4905	0.1722
FJI 53x400-36	3.93	1806	3156	19.517	1.766	20.888	6.480	0.5763	0.1966
FJI 58x400-36	4.11	1986	3156	21.421	1.931	21.391	6.480	0.6296	0.2118
FJI 63x400-36	4.29	2166	3156	23.294	2.096	21.893	6.480	0.6838	0.2273
FJI 69x400-36	4.51	2382	3156	25.502	2.294	22.094	6.480	0.7494	0.2459
FJI 70x400-36	4.55	2418	3156	25.871	2.327	22.094	6.480	0.7605	0.2491
FJI 89x400-36	5.25	3102	3156	32.865	2.954	22.055	6.480	0.9767	0.3106
FJI 96x400-36	5.50	3354	3156	35.442	3.186	21.997	6.480	1.0570	0.3335

Properties given for joists with web thickness of 9mm.
Bending resistance values are based on 300mm spacing of lateral constraints.

Table A1.3. Characteristic values – 39 mm flange.

JOIST TYPE	Weight	Flange area	Web area	Bending moment capacity	Flexural rigidity (mean value)	Shear capacity	Shear rigidity (mean value)	Torsional rigidity (mean value)	Torsional capacity
		A_F	A_W	M_k	EI_{mean}	V_k	GA_{mean}	$GI_{T,mean}$	M_T
	kg/m	mm^2	mm^2	kNm	x 10^{12} Nmm^2	kN	x 10^6 N	x 10^9 Nmm^2	kNm
FJI 38x160	2.04	1355	993	4.815	0.150	8.722	2.592	0.3886	0.1134
FJI 45x160	2.32	1628	993	5.811	0.178	9.038	2.592	0.4897	0.1375
FJI 53x160	2.63	1940	993	6.943	0.211	9.361	2.592	0.5951	0.1652
FJI 58x160	2.83	2135	993	7.650	0.231	9.339	2.592	0.6646	0.1835
FJI 63x160	3.03	2330	993	8.345	0.252	9.321	2.592	0.7321	0.2012
FJI 69x160	3.27	2564	993	9.165	0.276	9.303	2.592	0.8148	0.2230
FJI 70x160	3.31	2603	993	9.302	0.280	9.300	2.592	0.8286	0.2266
FJI 89x160	4.07	3344	993	11.900	0.358	9.261	2.592	1.0980	0.2974
FJI 96x160	4.34	3617	993	12.857	0.386	9.250	2.592	1.2016	0.3246
FJI 38x200	2.27	1355	1353	6.351	0.261	11.605	3.240	0.4035	0.1216
FJI 45x200	2.55	1628	1353	7.657	0.311	12.026	3.240	0.5046	0.1457
FJI 53x200	2.87	1940	1353	9.142	0.368	12.324	3.240	0.6100	0.1734
FJI 58x200	3.07	2135	1353	10.068	0.404	12.291	3.240	0.6795	0.1917
FJI 63x200	3.27	2330	1353	10.979	0.439	12.264	3.240	0.7470	0.2094
FJI 69x200	3.51	2564	1353	12.055	0.482	12.236	3.240	0.8297	0.2312
FJI 70x200	3.55	2603	1353	12.234	0.489	12.232	3.240	0.8434	0.2348
FJI 89x200	4.30	3344	1353	15.640	0.624	12.172	3.240	1.1129	0.3056
FJI 96x200	4.58	3617	1353	16.895	0.674	12.156	3.240	1.2165	0.3328
FJI 38x220	2.39	1355	1533	7.135	0.330	13.046	3.564	0.4109	0.1257
FJI 45x220	2.67	1628	1533	8.598	0.392	13.519	3.564	0.5120	0.1498
FJI 53x220	2.99	1940	1533	10.261	0.464	13.833	3.564	0.6174	0.1775
FJI 58x220	3.19	2135	1533	11.298	0.509	13.793	3.564	0.6869	0.1958
FJI 63x220	3.39	2330	1533	12.318	0.553	13.759	3.564	0.7544	0.2135
FJI 69x220	3.63	2564	1533	13.523	0.607	13.726	3.564	0.8371	0.2353
FJI 70x220	3.67	2603	1533	13.723	0.616	13.721	3.564	0.8508	0.2389
FJI 89x220	4.42	3344	1533	17.537	0.786	13.648	3.564	1.1203	0.3097
FJI 96x220	4.70	3617	1533	18.942	0.849	13.629	3.564	1.2239	0.3369
FJI 38x240	2.51	1355	1713	7.929	0.406	14.209	3.888	0.4183	0.1298
FJI 45x240	2.79	1628	1713	9.549	0.483	14.725	3.888	0.5195	0.1539
FJI 53x240	3.11	1940	1713	11.391	0.571	15.314	3.888	0.6248	0.1816
FJI 58x240	3.31	2135	1713	12.539	0.626	15.308	3.888	0.6944	0.1999
FJI 63x240	3.51	2330	1713	13.669	0.681	15.268	3.888	0.7618	0.2176
FJI 69x240	3.75	2564	1713	15.003	0.748	15.228	3.888	0.8445	0.2394
FJI 70x240	3.79	2603	1713	15.225	0.759	15.222	3.888	0.8583	0.2430
FJI 89x240	4.54	3344	1713	19.448	0.968	15.135	3.888	1.1277	0.3138
FJI 96x240	4.82	3617	1713	21.004	1.045	15.112	3.888	1.2313	0.3410
FJI 38x300	2.87	1355	2253	10.362	0.688	16.280	4.860	0.4406	0.1421
FJI 45x300	3.15	1628	2253	12.457	0.817	16.871	4.860	0.5417	0.1662
FJI 53x300	3.47	1940	2253	14.837	0.965	17.545	4.860	0.6471	0.1939
FJI 58x300	3.66	2135	2253	16.321	1.057	17.967	4.860	0.7166	0.2122
FJI 63x300	3.86	2330	2253	17.781	1.149	18.389	4.860	0.7841	0.2299
FJI 69x300	4.10	2564	2253	19.504	1.260	18.558	4.860	0.8668	0.2517
FJI 70x300	4.14	2603	2253	19.791	1.279	18.558	4.860	0.8806	0.2553
FJI 89x300	4.90	3344	2253	25.247	1.630	18.558	4.860	1.1500	0.3261
FJI 96x300	5.18	3617	2253	27.257	1.759	18.558	4.860	1.2536	0.3533
FJI 45x360	3.50	1628	2793	15.438	1.244	18.443	5.832	0.5640	0.1785
FJI 53x360	3.82	1940	2793	18.359	1.467	19.181	5.832	0.6694	0.2062
FJI 58x360	4.02	2135	2793	20.180	1.606	19.642	5.832	0.7389	0.2245
FJI 63x360	4.22	2330	2793	21.972	1.745	20.103	5.832	0.8064	0.2422
FJI 69x360	4.46	2564	2793	24.086	1.912	20.288	5.832	0.8891	0.2640
FJI 70x360	4.50	2603	2793	24.438	1.940	20.288	5.832	0.9028	0.2676
FJI 89x360	5.25	3344	2793	31.132	2.470	20.288	5.832	1.1723	0.3384
FJI 96x360	5.53	3617	2793	33.598	2.665	20.288	5.832	1.2759	0.3656
FJI 45x400	3.74	1628	3153	17.465	1.581	20.291	6.480	0.5789	0.1867
FJI 53x400	4.06	1940	3153	20.748	1.863	21.102	6.480	0.6843	0.2144
FJI 58x400	4.26	2135	3153	22.794	2.039	21.610	6.480	0.7538	0.2327
FJI 63x400	4.46	2330	3153	24.807	2.215	22.117	6.480	0.8213	0.2504
FJI 69x400	4.70	2564	3153	27.181	2.426	22.320	6.480	0.9039	0.2722
FJI 70x400	4.74	2603	3153	27.577	2.461	22.320	6.480	0.9177	0.2758
FJI 89x400	5.49	3344	3153	35.097	3.130	22.320	6.480	1.1872	0.3466
FJI 96x400	5.77	3617	3153	37.868	3.377	22.320	6.480	1.2908	0.3738

Properties given for joists with web thickness of 9mm.
Bending resistance values are based on 300mm spacing of lateral constraints.

Table A1.4. Characteristic values – 45 mm flange.

JOIST TYPE	Weight	Flange area	Web area	Bending moment capacity	Flexural rigidity (mean value)	Shear capacity	Shear rigidity (mean value)	Torsional rigidity (mean value)	Torsional capacity
	kg/m	A_F mm^2	A_W mm^2	M_k kNm	EI_{mean} x 10^{12} Nmm^2	V_k kN	GA_{mean} x 10^6 N	$GI_{T,mean}$ x 10^9 Nmm^2	M_T kNm
FJI 38x160-45	2.20	1583	885	5.397	0.160	8.289	2.592	0.4536	0.1297
FJI 45x160-45	2.52	1898	885	6.507	0.190	8.590	2.592	0.7083	0.1698
FJI 53x160-45	2.89	2258	885	7.769	0.224	8.933	2.592	0.8612	0.2046
FJI 58x160-45	3.12	2483	885	8.556	0.246	8.981	2.592	0.9617	0.2275
FJI 63x160-45	3.35	2708	885	9.330	0.268	8.966	2.592	1.0658	0.2512
FJI 69x160-45	3.62	2978	885	10.244	0.294	8.952	2.592	1.1933	0.2802
FJI 70x160-45	3.67	3023	885	10.396	0.298	8.950	2.592	1.2139	0.2849
FJI 89x160-45	4.54	3878	885	13.290	0.380	8.919	2.592	1.6180	0.3770
FJI 96x160-45	4.86	4193	885	14.356	0.410	8.910	2.592	1.7700	0.4116
FJI 38x200-45	2.44	1583	1245	7.147	0.284	11.172	3.240	0.4685	0.1379
FJI 45x200-45	2.76	1898	1245	8.611	0.337	11.577	3.240	0.7232	0.1780
FJI 53x200-45	3.12	2258	1245	10.274	0.399	11.900	3.240	0.8761	0.2128
FJI 58x200-45	3.35	2483	1245	11.312	0.437	11.874	3.240	0.9765	0.2357
FJI 63x200-45	3.58	2708	1245	12.333	0.475	11.852	3.240	1.0806	0.2594
FJI 69x200-45	3.86	2978	1245	13.538	0.521	11.830	3.240	1.2082	0.2884
FJI 70x200-45	3.90	3023	1245	13.738	0.529	11.827	3.240	1.2287	0.2931
FJI 89x200-45	4.78	3878	1245	17.554	0.675	11.780	3.240	1.6329	0.3852
FJI 96x200-45	5.10	4193	1245	18.959	0.728	11.767	3.240	1.7849	0.4198
FJI 38x220-45	2.55	1583	1425	8.043	0.360	12.614	3.564	0.4759	0.1420
FJI 45x220-45	2.88	1898	1425	9.686	0.428	13.071	3.564	0.7306	0.1821
FJI 53x220-45	3.24	2258	1425	11.553	0.506	13.381	3.564	0.8835	0.2169
FJI 58x220-45	3.47	2483	1425	12.718	0.554	13.350	3.564	0.9839	0.2398
FJI 63x220-45	3.70	2708	1425	13.864	0.603	13.324	3.564	1.0881	0.2635
FJI 69x220-45	3.98	2978	1425	15.216	0.661	13.297	3.564	1.2156	0.2925
FJI 70x220-45	4.02	3023	1425	15.441	0.671	13.293	3.564	1.2361	0.2972
FJI 89x220-45	4.90	3878	1425	19.724	0.855	13.236	3.564	1.6403	0.3893
FJI 96x220-45	5.22	4193	1425	21.301	0.923	13.220	3.564	1.7923	0.4239
FJI 38x240-45	2.67	1583	1605	8.950	0.445	13.785	3.888	0.4833	0.1461
FJI 45x240-45	2.99	1898	1605	10.774	0.530	14.285	3.888	0.7381	0.1862
FJI 53x240-45	3.36	2258	1605	12.846	0.626	14.856	3.888	0.8910	0.2210
FJI 58x240-45	3.59	2483	1605	14.138	0.686	14.840	3.888	0.9914	0.2439
FJI 63x240-45	3.82	2708	1605	15.409	0.746	14.809	3.888	1.0955	0.2676
FJI 69x240-45	4.10	2978	1605	16.910	0.818	14.777	3.888	1.2230	0.2966
FJI 70x240-45	4.14	3023	1605	17.160	0.830	14.773	3.888	1.2436	0.3013
FJI 89x240-45	5.01	3878	1605	21.912	1.058	14.704	3.888	1.6477	0.3934
FJI 96x240-45	5.34	4193	1605	23.662	1.142	14.686	3.888	1.7997	0.4280
FJI 38x300-45	3.03	1583	2145	11.729	0.761	15.906	4.860	0.5056	0.1584
FJI 45x300-45	3.35	1898	2145	14.097	0.904	16.483	4.860	0.7603	0.1985
FJI 53x300-45	3.72	2258	2145	16.788	1.067	17.142	4.860	0.9132	0.2333
FJI 58x300-45	3.95	2483	2145	18.466	1.169	17.554	4.860	1.0137	0.2562
FJI 63x300-45	4.18	2708	2145	20.117	1.271	17.966	4.860	1.1178	0.2799
FJI 69x300-45	4.45	2978	2145	22.065	1.394	18.131	4.860	1.2453	0.3089
FJI 70x300-45	4.50	3023	2145	22.389	1.414	18.131	4.860	1.2659	0.3136
FJI 89x300-45	5.37	3878	2145	28.558	1.802	18.131	4.860	1.6700	0.4057
FJI 96x300-45	5.69	4193	2145	30.831	1.944	18.131	4.860	1.8220	0.4403
FJI 45x360-45	3.71	1898	2685	17.502	1.384	18.099	5.832	0.7826	0.2108
FJI 53x360-45	4.07	2258	2685	20.815	1.632	18.823	5.832	0.9355	0.2456
FJI 58x360-45	4.30	2483	2685	22.880	1.787	19.275	5.832	1.0359	0.2685
FJI 63x360-45	4.53	2708	2685	24.912	1.943	19.728	5.832	1.1401	0.2922
FJI 69x360-45	4.81	2978	2685	27.310	2.129	19.909	5.832	1.2676	0.3212
FJI 70x360-45	4.86	3023	2685	27.710	2.160	19.909	5.832	1.2881	0.3259
FJI 89x360-45	5.73	3878	2685	35.303	2.749	19.909	5.832	1.6923	0.4180
FJI 96x360-45	6.05	4193	2685	38.101	2.966	19.909	5.832	1.8443	0.4526
FJI 45x400-45	3.95	1898	3045	19.812	1.765	20.397	6.480	0.7975	0.2190
FJI 53x400-45	4.31	2258	3045	23.541	2.079	21.213	6.480	0.9504	0.2538
FJI 58x400-45	4.54	2483	3045	25.866	2.276	21.723	6.480	1.0508	0.2767
FJI 63x400-45	4.77	2708	3045	28.153	2.473	22.233	6.480	1.1549	0.3004
FJI 69x400-45	5.05	2978	3045	30.852	2.709	22.437	6.480	1.2825	0.3294
FJI 70x400-45	5.09	3023	3045	31.301	2.748	22.437	6.480	1.3030	0.3341
FJI 89x400-45	5.96	3878	3045	39.847	3.496	22.437	6.480	1.7072	0.4262
FJI 96x400-45	6.29	4193	3045	42.995	3.771	22.437	6.480	1.8591	0.4608

Properties given for joists with web thickness of 9mm.
Bending resistance values are based on 300mm spacing of lateral constraints.

Table A1.5. Finnjoist characteristic capacities for flange dependent properties.

Flange width	End bearing [1]				Intermediate bearing[1]						Secondary direction[2]				Axial[2]	
	45mm		89mm		75mm		89mm		135mm		Moment Capacity	Shear Capacity	Flexural Rigidity	Shear Rigidity	Axial Capacity[3]	Axial Rigidity[2]
	NS	S	NS	S	NS	S	NS	S	NS	S	$M_{f,k,y}$	$V_{f,k,z}$	EI_y	$EA_{Q,mean,z}$	$F_{c,k,x}$	$EA_{mean,x}$
mm	kN	kN	kN	kN	kN	kN	kN	kN	kN	kN	kNm	kN	x 10^9 Nmm^2	x 10^6 N	kN	x10^6 N
36mm flange depth																
45	9.46	11.18	15.76	17.48	16.76	18.48	18.77	20.49	25.36	27.08	0.512	4.149	3.764	0.911	42.50	20.948
53	10.75	12.47	17.33	19.63	19.05	20.77	21.33	23.05	28.69	30.54	0.711	4.936	6.155	1.084	50.57	24.923
58	11.23	13.27	17.33	20.98	20.37	22.20	22.31	24.65	28.69	32.71	0.852	5.428	8.069	1.192	55.61	27.407
63	11.23	13.37	17.33	21.14	20.37	22.38	22.31	24.85	28.69	32.97	1.005	5.920	10.343	1.300	60.65	29.891
69	11.23	13.37	17.33	21.14	20.37	22.38	22.31	24.85	28.69	32.97	1.199	6.511	13.592	1.429	66.70	32.872
70	11.23	13.37	17.33	21.14	20.37	22.38	22.31	24.85	28.69	32.97	1.232	6.609	14.192	1.451	67.70	33.368
89	11.23	13.37	17.33	21.14	20.37	22.38	22.31	24.85	28.69	32.97	1.935	8.479	29.177	1.861	86.86	42.808
96	11.23	13.37	17.33	21.14	20.37	22.38	22.31	24.85	28.69	32.97	2.231	9.168	36.620	2.012	93.91	46.285
39mm flange depth																
38	8.33	10.05	13.88	15.60	14.76	16.48	16.53	18.25	22.33	24.05	0.395	3.702	2.450	0.813	37.93	18.692
45	9.46	11.18	15.76	17.48	16.76	18.48	18.77	20.49	25.36	27.08	0.555	4.449	4.076	0.977	45.57	22.460
53	10.75	12.47	17.74	19.63	19.05	20.77	21.33	23.05	28.82	30.54	0.770	5.301	6.667	1.164	54.31	26.765
58	11.55	13.27	17.74	20.98	20.48	22.20	22.93	24.65	29.52	32.71	0.923	5.834	8.740	1.281	59.77	29.456
63	11.64	14.08	17.74	22.32	21.21	23.63	23.15	26.25	29.52	34.87	1.089	6.367	11.204	1.398	65.23	32.147
69	11.64	15.05	17.74	23.59	21.21	25.35	23.15	28.18	29.52	35.37	1.298	7.007	14.723	1.538	71.78	35.376
70	11.64	15.17	17.74	23.59	21.21	25.56	23.15	28.41	29.52	35.37	1.334	7.114	15.373	1.562	72.87	35.915
89	11.64	15.17	17.74	23.59	21.21	25.56	23.15	28.41	29.52	35.37	2.096	9.139	31.607	2.006	93.62	46.140
96	11.64	15.17	17.74	23.59	21.21	25.56	23.15	28.41	29.52	35.37	2.417	9.885	39.670	2.170	101.26	49.908
45mm flange depth																
45	10.32	12.04	16.62	18.34	18.48	20.20	20.49	22.21	27.08	28.80	0.640	5.187	4.705	1.139	53.13	26.186
53	11.72	13.44	18.57	20.61	21.01	22.73	23.29	25.01	30.78	32.50	0.889	6.171	7.694	1.355	63.21	31.154
58	12.47	14.32	18.57	22.03	22.58	24.30	24.81	26.75	31.19	34.81	1.065	6.786	10.086	1.490	69.51	34.259
63	12.47	15.20	18.57	23.45	22.87	25.88	24.81	28.50	31.19	37.04	1.256	7.401	12.929	1.625	75.81	37.364
69	12.47	16.26	18.57	24.42	22.87	27.77	24.81	30.60	31.19	37.04	1.498	8.139	16.990	1.787	83.37	41.090
70	12.47	16.39	18.57	24.42	22.87	28.00	24.81	30.66	31.19	37.04	1.540	8.262	17.740	1.814	84.63	41.711
89	12.47	16.39	18.57	24.42	22.87	28.00	24.81	30.66	31.19	37.04	2.419	10.599	36.472	2.327	108.57	53.510
96	12.47	16.39	18.57	24.42	22.87	28.00	24.81	30.66	31.19	37.04	2.789	11.460	45.774	2.516	117.39	57.857

Properties given for joists with web thickness of 9mm.
Bending resistance values are based on 300mm spacing of lateral constraints.
[1] For bearing capacities NS indicates no web stiffener at the support, S indicates web stiffener at the support
[2] Moment capacity, shear capacity, flexural rigidity, axial capacity and axial rigidity in the weak direction per flange
[3] Axial capacity does not include stability factors

Table A2.1. Values of modification factors k_{mod} for the Finnjoist I-joists.

Duration of load	Bending and axial resistance		Shear resistance		Bearing resistance	
	Service class 1	Service class 2	Service class 1	Service class 2	Service class 1	Service class 2
Permanent	0,6	0,6	0,4	0,3	0,6	0,6
Long term	0,7	0,7	0,5	0,4	0,7	0,7
Medium term	0,8	0,8	0,7	0,55	0,8	0,8
Short term	0,9	0,9	0,9	0,7	0,9	0,9
Instantaneous	1,1	1,1	1,1	0,9	1,1	1,1

Table A2.2. Values of deformation factors k_{def} for the Finnjoist I-joists.

Bending and axial deformation		Shear deformation	
Service class 1	Service class 2	Service class 1	Service class 2
0,6	0,8	1,5	2,25