木質系耐力パネルの下端接合強さの実験

Experiments on the lower-end connection
of wood framed panel

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Test procedure Vertical member of the specimen is fastened to the rigid steel frame which is assumed as a solid panel. While, lower end of the vertical member is connected to the sill. Then, lateral force P is applied at the top of the frame as shown in Fig.1. To obtain P - Δ relations, displacements of (a), (b) and (c) were observed under several loading steps.

Specimens Various types of connectors were prepared as shown in Fig.2.

Results As indicated in Table 1 (average of two specimens each), (1) Most of the specimens are sufficiently excellent on their ultimate load compared with the designed load. (2) However they should be satisfactory when angle deform is 1/200 or 1/100 rad. In this point of view, 1, 2, 3, 6, 9, 10, 12, 13, 15, 16, 17 were excellent, 7, 8, 11, 14, 19 were good, others were fair. (Courtesy Prefab Kenchiku Kyokai.)

Table 1

No.		1/200 rad. P kg	1/100 rad. disp mm	1/60 rad. P kg	ultimate P kg	designed load kg	mode of rupture
①	M-u280-B	230	2.5	323	410	550	U plate bent
②	M-u380-B	350	2.5	490	605	815	do.
③	M-u260-B	239	2.4	412	569	660	do.
④	G-b9-B	144	3.5	249	421	690	nut indentation to the sill
⑤	G-b13-B	210	2.5	365	550	985	do.
⑥	M-j313n4-B	229	4.0	305	365	465	nail torn off
⑦	M-j313n8-B	195	2.8	312	429	560	wood frame split
⑧	M-j413n8-B	210	3.2	340	438	560	do.
⑨	M-ib13n8-B	224	2.6	397	564	598	do.
⑩	M-ib09n4-B	176	3.6	285	360	285	nail torn off
⑪	M-ib09n8-B	188	3.3	358	461	553	do.
⑫	P-212n4-B	183	2.0	328	420	545	wood sill split
⑬	P-212n8-B	235	3.1	359	469	540	do.
⑭	P-13n8-B	124	2.9	204	281	415	do.
⑮	P-213n8-B	225	2.5	375	490	670	do.
⑯	P-2106n4-B	239	2.5	367	472	665	plate torn off
⑰	P-2112n4-B	260	1.8	387	603	715	wood sill split
⑱	P-u1n16-B	234	3.2	357	479	915	nail withdrawal
⑲	P-u3n16-B	335	1.5	497	645	890	do.
⑳	P-2k-B	112	6.6	-	-	115	clamp withdraw
㉑	P-3k-B	132	6.2	-	-	153	do.
㉒	P-4k-B	180	2.5	300	-	315	do.

Fig. 1

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