

# double span butt-jointed purlins



Where load criteria allows choice of system the double span system is a cost effective purlin system. The load tables are valid when fixed exactly as described on pages 7, 9 & 10. All loads have been calculated in accordance with BS 5950 : Part 5 using a load factor of 1.6. The purlin weight has already been deducted and the loads may actually be applied. Loads for other purlin centres or spans may be calculated by interpolation. Tables are valid for roof pitches up to 25° slope.

For structural engineers wishing to check individual cases ultimate loads are shown in the right hand columns together with loads at different deflection criteria. (Self weight of purlin not deducted)

For intermediate spans or deflection criteria ultimate loads can be obtained by linear interpolation.

### Notes:

1. When using ultimate tables, load factors **must** be applied.
2. Wind uplift figures shown are for screw fixed cladding, for hook bolt type fixing please contact our technical department.
3. In order to distribute load within the main frame, purlin joints should be staggered. This is achieved by using a sleeved joint at every alternate purlin row on the penultimate rafter. The purlin joints can be in line if necessary as long as the main frame is checked for extra stresses.

## metric load tables for double span butt-jointed purlins

SECTION REF	UDL kN	PURLIN CENTRES IN METRES								ULTIMATE LOADS					
		1.000	1.375	1.500	1.675	1.800	2.000	2.500	3.000	ULT. LOAD	DEFLECTION		LATERAL SUPPORTS		
		ALLOWABLE LOADINGS (kN/m <sup>2</sup> )								DOWNLOAD (kN)			UPLIFT (kN)		
										SPAN/180	SPAN/360	0 ROWS	1 ROW	2 ROWS	
12515	9.458	2.70	1.97	1.80	1.61	1.50	1.35	1.08	0.90	15.269	12.699	7.669	11.919	14.518	15.269
12516	10.268	2.93	2.13	1.96	1.75	1.63	1.47	1.17	0.98	16.573	13.705	8.152	12.937	15.433	16.573
14613	10.301	2.94	2.14	1.96	1.76	1.64	1.47	1.18	0.98	16.629	13.628	10.216	16.629	16.629	16.629
14614	11.642	3.33	2.42	2.22	1.99	1.85	1.66	1.33	1.11	18.785	15.280	12.270	17.979	18.785	18.785
14615	12.994	3.71	2.70	2.48	2.22	2.06	1.86	1.49	1.24	20.960	17.824	14.098	19.236	20.960	20.960
14616	14.340	4.10	2.98	2.73	2.45	2.28	2.05	1.64	1.37	23.124	20.669	14.995	20.492	23.124	23.124
12515	8.218	2.05	1.49	1.37	1.23	1.14	1.03	0.82	0.68	13.304	10.673	5.823	10.228	11.777	13.304
12516	8.922	2.23	1.62	1.49	1.33	1.24	1.12	0.89	0.74	14.441	11.525	6.189	10.886	12.526	14.441
14613	8.951	2.24	1.63	1.49	1.34	1.24	1.12	0.90	0.75	14.490	10.715	8.587	12.762	14.490	14.490
14614	10.117	2.53	1.84	1.69	1.51	1.41	1.26	1.01	0.84	16.368	12.639	10.018	13.746	16.368	16.368
14615	11.293	2.82	2.05	1.88	1.69	1.57	1.41	1.13	0.94	18.263	14.809	10.703	14.734	18.263	18.263
14616	12.464	3.12	2.27	2.08	1.86	1.73	1.56	1.25	1.04	20.148	17.242	11.384	15.729	20.148	20.148
12515	7.258	1.61	1.17	1.08	0.96	0.90	0.81	0.65	0.54	11.787	9.141	4.571	8.640	9.565	11.787
12516	7.880	1.75	1.27	1.17	1.05	0.97	0.88	0.70	0.58	12.794	9.716	4.858	9.206	10.182	12.682
14613	7.905	1.76	1.28	1.17	1.05	0.98	0.88	0.70	0.59	12.838	9.064	7.323	10.021	12.838	12.838
14614	8.936	1.99	1.44	1.32	1.19	1.10	0.99	0.79	0.66	14.502	10.737	7.864	11.320	14.502	14.502
14615	9.976	2.22	1.61	1.48	1.32	1.23	1.11	0.89	0.74	16.181	12.627	8.402	12.631	16.181	16.181
14616	11.012	2.45	1.78	1.63	1.46	1.36	1.22	0.98	0.82	17.851	14.752	8.936	13.935	17.851	17.851
17613	9.747	2.17	1.58	1.44	1.29	1.20	1.08	0.87	0.72	15.804	12.759	9.862	12.454	15.804	15.804
17614	11.038	2.45	1.78	1.64	1.46	1.36	1.23	0.98	0.82	17.886	14.645	11.872	13.962	17.886	17.886
17615	12.339	2.74	1.99	1.83	1.64	1.52	1.37	1.10	0.91	19.983	17.127	12.992	15.599	19.983	19.983
17616	13.634	3.03	2.20	2.02	1.81	1.68	1.51	1.21	1.01	22.070	19.604	13.822	17.228	22.070	22.070
17623	22.006	4.89	3.56	3.26	2.92	2.72	2.45	1.96	1.63	35.574	30.337	19.514	27.704	32.816	35.574
14613	7.070	1.41	1.03	0.94	0.84	0.79	0.71	0.57	0.47	11.524	7.829	5.901	8.995	11.524	11.524
14614	7.994	1.60	1.16	1.07	0.95	0.89	0.80	0.64	0.53	13.018	9.308	6.337	10.162	13.018	13.018
14615	8.926	1.79	1.30	1.19	1.07	0.99	0.89	0.71	0.60	14.525	10.983	6.770	11.338	14.330	14.525
14616	9.853	1.97	1.43	1.31	1.18	1.09	0.99	0.79	0.66	16.024	12.868	7.201	12.508	15.244	16.024
17613	8.721	1.74	1.27	1.16	1.04	0.97	0.87	0.70	0.58	14.186	10.695	8.615	11.074	14.186	14.186
17614	9.879	1.98	1.44	1.32	1.18	1.10	0.99	0.79	0.66	16.055	12.637	9.796	12.533	16.055	16.055
17615	11.044	2.21	1.61	1.47	1.32	1.23	1.10	0.88	0.74	17.938	14.829	10.468	14.002	17.938	17.938
17616	12.205	2.44	1.78	1.63	1.46	1.36	1.22	0.98	0.81	19.812	17.018	11.138	15.465	19.736	19.812
20714	11.784	2.36	1.71	1.57	1.41	1.31	1.18	0.94	0.79	19.140	16.024	10.894	17.019	19.140	19.140
14613	6.388	1.16	0.84	0.77	0.69	0.65	0.58	0.46	0.39	10.454	6.876	4.856	8.160	10.454	10.454
14614	7.224	1.31	0.96	0.88	0.78	0.73	0.66	0.53	0.44	11.809	8.200	5.215	9.218	11.352	11.809
14615	8.068	1.47	1.07	0.98	0.88	0.81	0.73	0.59	0.49	13.176	9.703	5.571	10.285	12.134	13.176
14616	8.907	1.62	1.18	1.08	0.97	0.90	0.81	0.65	0.54	14.536	11.396	5.926	11.347	12.914	14.536
17613	7.884	1.43	1.04	0.96	0.86	0.80	0.72	0.57	0.48	12.869	9.352	7.505	10.046	12.869	12.869
17614	8.931	1.62	1.18	1.08	0.97	0.90	0.81	0.65	0.54	14.564	11.087	8.061	11.369	14.564	14.564
17615	9.986	1.82	1.32	1.21	1.08	1.01	0.91	0.73	0.61	16.272	13.050	8.615	12.702	15.749	16.272
17616	11.037	2.01	1.46	1.34	1.20	1.11	1.00	0.80	0.67	17.972	15.010	9.165	14.029	16.757	17.972
20714	10.655	1.94	1.41	1.29	1.16	1.08	0.97	0.77	0.65	17.363	13.430	9.597	13.554	17.363	17.363
20715	12.006	2.18	1.59	1.46	1.30	1.21	1.09	0.87	0.73	19.548	14.779	11.357	15.259	19.548	19.548
20716	13.384	2.43	1.77	1.62	1.45	1.35	1.22	0.97	0.81	21.774	16.525	13.342	16.997	21.774	21.774
20718	16.171	2.94	2.14	1.96	1.76	1.63	1.47	1.18	0.98	26.278	21.608	15.629	20.512	26.278	26.278

SECTION REF	UDL kN	PURLIN CENTRES IN METRES								ULTIMATE LOADS					
		1.000	1.375	1.500	1.675	1.800	2.000	2.500	3.000	DEFLECTION			LATERAL SUPPORTS		
		ALLOWABLE LOADINGS (kN/m <sup>2</sup> )								ULT. LOAD	SPAN/180	SPAN/360	0 ROWS	1 ROW	2 ROWS
								DOWNLOAD (kN)			UPLIFT (kN)				
14615	7.353	1.23	0.89	0.82	0.73	0.68	0.61	0.49	0.41	12.057	8.681	4.665	9.411	10.242	12.057
14616	8.119	1.35	0.98	0.90	0.81	0.75	0.68	0.54	0.45	13.301	9.923	4.962	10.092	10.907	13.301
14618	9.609	1.60	1.16	1.07	0.96	0.89	0.80	0.64	0.53	15.723	11.100	5.550	11.344	12.273	15.723
17613	7.186	1.20	0.87	0.80	0.71	0.67	0.60	0.48	0.40	11.776	8.291	6.284	9.192	11.608	11.776
17614	8.142	1.36	0.99	0.90	0.81	0.75	0.68	0.54	0.45	13.327	9.859	6.750	10.403	12.470	13.327
17615	9.106	1.52	1.10	1.01	0.91	0.84	0.76	0.61	0.51	14.890	11.636	7.213	11.623	13.330	14.890
17616	10.065	1.68	1.22	1.12	1.00	0.93	0.84	0.67	0.56	16.445	13.410	7.674	12.837	14.188	16.445
17618	11.936	1.99	1.45	1.33	1.19	1.11	0.99	0.80	0.66	19.482	15.657	8.589	14.589	15.898	19.482
20714	9.715	1.62	1.18	1.08	0.97	0.90	0.81	0.65	0.54	15.888	11.448	8.564	12.402	15.888	15.888
20715	10.949	1.82	1.33	1.22	1.09	1.01	0.91	0.73	0.61	17.887	12.664	10.160	13.962	17.887	17.887
20716	12.207	2.03	1.48	1.36	1.21	1.13	1.02	0.81	0.68	19.924	14.626	11.685	15.553	19.924	19.924
20718	14.752	2.46	1.79	1.64	1.47	1.37	1.23	0.98	0.82	24.045	19.218	13.086	18.770	23.898	24.045
20720	17.272	2.88	2.09	1.92	1.72	1.60	1.44	1.15	0.96	28.125	23.550	14.475	21.954	26.434	28.125
22715	12.429	2.07	1.51	1.38	1.24	1.15	1.04	0.83	0.69	20.280	16.181	12.239	15.830	20.280	20.280
22716	13.879	2.31	1.68	1.54	1.38	1.29	1.16	0.93	0.77	22.626	17.874	14.369	17.662	22.626	22.626
22718	16.809	2.80	2.04	1.87	1.67	1.56	1.40	1.12	0.93	27.364	23.341	17.212	21.361	27.364	27.364
24716	14.860	2.48	1.80	1.65	1.48	1.38	1.24	0.99	0.83	24.210	20.305	15.921	18.898	24.210	24.210
24718	18.025	3.00	2.18	2.00	1.79	1.67	1.50	1.20	1.00	29.328	26.022	20.020	22.894	29.328	29.328
24720	21.162	3.53	2.57	2.35	2.11	1.96	1.76	1.41	1.18	34.400	30.834	22.154	26.852	33.911	34.400
17614	7.474	1.15	0.84	0.77	0.69	0.64	0.57	0.46	0.38	12.283	8.865	5.734	9.588	10.480	12.283
17615	8.360	1.29	0.94	0.86	0.77	0.71	0.64	0.51	0.43	13.724	10.487	6.128	10.700	11.208	13.724
17616	9.242	1.42	1.03	0.95	0.85	0.79	0.71	0.57	0.47	15.157	12.107	6.519	11.408	11.936	15.157
17618	10.963	1.69	1.23	1.12	1.01	0.94	0.84	0.67	0.56	17.956	14.148	7.297	12.829	14.017	17.956
17620	12.606	1.94	1.41	1.29	1.16	1.08	0.97	0.78	0.65	20.630	16.110	8.066	14.256	16.104	20.175
20714	8.919	1.37	1.00	0.91	0.82	0.76	0.69	0.55	0.46	14.644	9.898	7.724	11.431	14.644	14.644
20715	10.054	1.55	1.12	1.03	0.92	0.86	0.77	0.62	0.52	16.486	11.311	9.183	12.869	16.486	16.486
20716	11.211	1.72	1.25	1.15	1.03	0.96	0.86	0.69	0.57	18.364	13.096	9.926	14.335	18.364	18.364
20718	13.552	2.08	1.52	1.39	1.24	1.16	1.04	0.83	0.69	22.162	17.282	11.117	17.300	20.737	22.162
22715	11.416	1.76	1.28	1.17	1.05	0.98	0.88	0.70	0.59	18.692	13.987	11.043	14.591	18.692	18.692
22716	12.750	1.96	1.43	1.31	1.17	1.09	0.98	0.78	0.65	20.854	15.968	12.991	16.278	20.854	20.854
22718	15.445	2.38	1.73	1.58	1.42	1.32	1.19	0.95	0.79	25.222	20.947	14.622	19.688	24.384	25.222
24716	13.652	2.10	1.53	1.40	1.25	1.17	1.05	0.84	0.70	22.314	17.842	14.380	17.418	22.314	22.314
24718	16.564	2.55	1.85	1.70	1.52	1.42	1.27	1.02	0.85	27.032	23.325	17.007	21.101	26.635	27.032
24720	19.450	2.99	2.18	1.99	1.79	1.66	1.50	1.20	1.00	31.706	27.690	18.820	24.750	29.462	31.706
24723	23.631	3.64	2.64	2.42	2.17	2.02	1.82	1.45	1.21	38.482	33.001	21.512	29.975	33.670	38.482
17615	7.720	1.10	0.80	0.74	0.66	0.61	0.55	0.44	0.37	12.727	9.537	5.270	9.388	9.935	12.727
17616	8.536	1.22	0.89	0.81	0.73	0.68	0.61	0.49	0.41	14.057	11.028	5.607	10.020	10.973	14.057
17618	10.127	1.45	1.05	0.96	0.86	0.80	0.72	0.58	0.48	16.652	12.551	6.275	11.292	12.999	16.655
17620	11.647	1.66	1.21	1.11	0.99	0.92	0.83	0.67	0.55	19.132	13.874	6.937	12.578	14.534	18.076
20714	8.236	1.18	0.86	0.78	0.70	0.65	0.59	0.47	0.39	13.581	8.741	7.029	10.601	13.581	13.581
20715	9.286	1.33	0.96	0.88	0.79	0.74	0.66	0.53	0.44	15.289	10.203	8.021	11.934	15.043	15.289
20716	10.357	1.48	1.08	0.99	0.88	0.82	0.74	0.59	0.49	17.030	11.840	8.537	13.294	16.012	17.030
20718	12.523	1.79	1.30	1.19	1.07	0.99	0.89	0.72	0.60	20.553	15.685	9.561	16.044	17.945	20.553
20720	14.668	2.10	1.52	1.40	1.25	1.16	1.05	0.84	0.70	24.040	19.310	10.576	18.302	19.870	24.040
22715	10.547	1.51	1.10	1.00	0.90	0.84	0.75	0.60	0.50	17.334	12.458	10.053	13.531	17.334	17.334
22716	11.781	1.68	1.22	1.12	1.00	0.94	0.84	0.67	0.56	19.339	14.407	11.225	15.096	18.855	19.339
22718	14.275	2.04	1.48	1.36	1.22	1.13	1.02	0.82	0.68	23.390	18.976	12.575	18.258	21.121	23.390
22720	16.745	2.39	1.74	1.59	1.43	1.33	1.20	0.96	0.80	27.402	22.858	13.914	21.390	23.376	27.402
22723	20.315	2.90	2.11	1.93	1.73	1.61	1.45	1.16	0.97	33.203	27.260	15.900	24.576	26.742	33.203
24716	12.616	1.80	1.31	1.20	1.08	1.00	0.90	0.72	0.60	20.694	16.080	13.054	16.153	20.604	20.694
24718	15.312	2.19	1.59	1.46	1.31	1.22	1.09	0.87	0.73	25.069	21.109	14.627	19.569	23.075	25.069
24720	17.982	2.57	1.87	1.71	1.53	1.43	1.28	1.03	0.86	29.403	25.101	16.186	22.952	25.533	29.403
24723	21.852	3.12	2.27	2.08	1.86	1.73	1.56	1.25	1.04	35.687	29.943	18.501	26.788	29.199	35.687
26716	13.964	1.99	1.45	1.33	1.19	1.11	1.00	0.80	0.66	22.880	19.095	15.336	17.860	22.880	22.880
26718	17.003	2.43	1.77	1.62	1.45	1.35	1.21	0.97	0.81	27.809	24.936	18.470	21.708	26.414	27.809
26720	20.017	2.86	2.08	1.91	1.71	1.59	1.43	1.14	0.95	32.697	29.028	20.444	25.523	29.219	32.697

# double span butt-jointed purlins



SECTION REF	UDL kN	PURLIN CENTRES IN METRES								ULTIMATE LOADS					
		1.000	1.375	1.500	1.675	1.800	2.000	2.500	3.000	DEFLECTION		LATERAL SUPPORTS			
		ALLOWABLE LOADINGS (kN/m <sup>2</sup> )								ULT. LOAD	SPAN/180	SPAN/360	0 ROWS	1 ROW	2 ROWS
								DOWNLOAD (kN)			UPLIFT (kN)				
<b>20714</b>	7.624	1.02	0.74	0.68	0.61	0.56	0.51	0.41	0.34	<b>12.661</b>	<b>7.933</b>	<b>6.445</b>	<b>9.883</b>	<b>12.097</b>	<b>12.661</b>
<b>20715</b>	8.620	1.15	0.84	0.77	0.69	0.64	0.57	0.46	0.38	<b>14.254</b>	<b>9.281</b>	<b>6.972</b>	<b>11.126</b>	<b>12.936</b>	<b>14.254</b>
<b>20716</b>	9.615	1.28	0.93	0.85	0.77	0.71	0.64	0.51	0.43	<b>15.877</b>	<b>10.792</b>	<b>7.420</b>	<b>12.394</b>	<b>13.774</b>	<b>15.877</b>
<b>20718</b>	11.630	1.55	1.13	1.03	0.93	0.86	0.78	0.62	0.52	<b>19.161</b>	<b>14.348</b>	<b>8.310</b>	<b>14.743</b>	<b>15.449</b>	<b>19.161</b>
<b>20720</b>	13.625	1.82	1.32	1.21	1.08	1.01	0.91	0.73	0.61	<b>22.412</b>	<b>17.698</b>	<b>9.192</b>	<b>16.372</b>	<b>17.495</b>	<b>22.412</b>
<b>22715</b>	9.793	1.31	0.95	0.87	0.78	0.73	0.65	0.52	0.44	<b>16.161</b>	<b>11.311</b>	<b>9.166</b>	<b>12.615</b>	<b>15.258</b>	<b>16.161</b>
<b>22716</b>	10.941	1.46	1.06	0.97	0.87	0.81	0.73	0.58	0.49	<b>18.030</b>	<b>13.109</b>	<b>9.757</b>	<b>14.074</b>	<b>16.241</b>	<b>18.030</b>
<b>22718</b>	13.261	1.77	1.29	1.18	1.06	0.98	0.88	0.71	0.59	<b>21.806</b>	<b>17.329</b>	<b>10.930</b>	<b>17.022</b>	<b>18.203</b>	<b>21.806</b>
<b>22720</b>	15.558	2.07	1.51	1.38	1.24	1.15	1.04	0.83	0.69	<b>25.546</b>	<b>20.910</b>	<b>12.094</b>	<b>19.161</b>	<b>20.159</b>	<b>25.546</b>
<b>22723</b>	18.879	2.52	1.83	1.68	1.50	1.40	1.26	1.01	0.84	<b>30.955</b>	<b>24.956</b>	<b>13.820</b>	<b>22.010</b>	<b>24.163</b>	<b>30.955</b>
<b>24716</b>	11.718	1.56	1.14	1.04	0.93	0.87	0.78	0.62	0.52	<b>19.292</b>	<b>14.615</b>	<b>11.346</b>	<b>15.060</b>	<b>17.754</b>	<b>19.292</b>
<b>24718</b>	14.225	1.90	1.38	1.26	1.13	1.05	0.95	0.76	0.63	<b>23.371</b>	<b>19.258</b>	<b>12.713</b>	<b>18.244</b>	<b>19.891</b>	<b>23.371</b>
<b>24720</b>	16.710	2.23	1.62	1.49	1.33	1.24	1.11	0.89	0.74	<b>27.413</b>	<b>22.935</b>	<b>14.068</b>	<b>20.887</b>	<b>22.021</b>	<b>27.413</b>
<b>24723</b>	20.309	2.71	1.97	1.81	1.62	1.50	1.35	1.08	0.90	<b>33.271</b>	<b>27.383</b>	<b>16.080</b>	<b>23.979</b>	<b>25.971</b>	<b>33.271</b>
<b>26716</b>	12.972	1.73	1.26	1.15	1.03	0.96	0.86	0.69	0.58	<b>21.331</b>	<b>17.328</b>	<b>14.060</b>	<b>16.651</b>	<b>20.328</b>	<b>21.331</b>
<b>26718</b>	15.800	2.11	1.53	1.40	1.26	1.17	1.05	0.84	0.70	<b>25.926</b>	<b>22.716</b>	<b>16.054</b>	<b>20.238</b>	<b>22.767</b>	<b>25.926</b>
<b>26720</b>	18.604	2.48	1.80	1.65	1.48	1.38	1.24	0.99	0.83	<b>30.483</b>	<b>26.474</b>	<b>17.769</b>	<b>23.795</b>	<b>25.192</b>	<b>30.483</b>
<b>26723</b>	22.684	3.02	2.20	2.02	1.81	1.68	1.51	1.21	1.01	<b>37.116</b>	<b>31.633</b>	<b>20.318</b>	<b>27.360</b>	<b>28.973</b>	<b>37.116</b>
<b>26725</b>	25.310	3.37	2.45	2.25	2.01	1.87	1.69	1.35	1.12	<b>41.389</b>	<b>34.975</b>	<b>21.999</b>	<b>29.703</b>	<b>32.308</b>	<b>41.389</b>
<b>30718</b>	17.908	2.39	1.74	1.59	1.43	1.33	1.19	0.96	0.80	<b>29.350</b>	<b>27.517</b>	<b>21.553</b>	<b>22.911</b>	<b>26.917</b>	<b>29.350</b>
<b>30720</b>	21.180	2.82	2.05	1.88	1.69	1.57	1.41	1.13	0.94	<b>34.661</b>	<b>31.771</b>	<b>23.863</b>	<b>27.056</b>	<b>29.771</b>	<b>34.661</b>
<b>20716</b>	8.965	1.12	0.82	0.75	0.67	0.62	0.56	0.45	0.37	<b>14.870</b>	<b>9.907</b>	<b>6.509</b>	<b>11.608</b>	<b>11.751</b>	<b>14.870</b>
<b>20718</b>	10.848	1.36	0.99	0.90	0.81	0.75	0.68	0.54	0.45	<b>17.946</b>	<b>13.213</b>	<b>7.290</b>	<b>13.175</b>	<b>14.009</b>	<b>17.946</b>
<b>20720</b>	12.711	1.59	1.16	1.06	0.95	0.88	0.79	0.64	0.53	<b>20.991</b>	<b>16.126</b>	<b>8.063</b>	<b>14.654</b>	<b>16.386</b>	<b>20.991</b>
<b>20723</b>	15.391	1.92	1.40	1.28	1.15	1.07	0.96	0.77	0.64	<b>25.376</b>	<b>18.421</b>	<b>9.210</b>	<b>16.895</b>	<b>19.454</b>	<b>24.215</b>
<b>20725</b>	17.092	2.14	1.55	1.42	1.28	1.19	1.07	0.85	0.71	<b>28.160</b>	<b>19.932</b>	<b>9.966</b>	<b>18.406</b>	<b>21.074</b>	<b>26.202</b>
<b>22715</b>	9.132	1.14	0.83	0.76	0.68	0.63	0.57	0.46	0.38	<b>15.136</b>	<b>10.345</b>	<b>8.040</b>	<b>11.815</b>	<b>13.033</b>	<b>15.136</b>
<b>22716</b>	10.204	1.28	0.93	0.85	0.76	0.71	0.64	0.51	0.43	<b>16.887</b>	<b>12.013</b>	<b>8.558</b>	<b>13.182</b>	<b>13.878</b>	<b>16.887</b>
<b>22718</b>	12.372	1.55	1.12	1.03	0.92	0.86	0.77	0.62	0.52	<b>20.424</b>	<b>15.934</b>	<b>9.588</b>	<b>15.427</b>	<b>15.943</b>	<b>20.424</b>
<b>22720</b>	14.518	1.81	1.32	1.21	1.08	1.01	0.91	0.73	0.60	<b>23.926</b>	<b>19.256</b>	<b>10.609</b>	<b>17.140</b>	<b>18.677</b>	<b>23.926</b>
<b>22723</b>	17.620	2.20	1.60	1.47	1.31	1.22	1.10	0.88	0.73	<b>28.992</b>	<b>22.999</b>	<b>12.123</b>	<b>19.729</b>	<b>22.631</b>	<b>28.447</b>
<b>22725</b>	19.600	2.45	1.78	1.63	1.46	1.36	1.23	0.98	0.82	<b>32.227</b>	<b>25.405</b>	<b>13.122</b>	<b>21.470</b>	<b>24.699</b>	<b>30.781</b>
<b>24716</b>	10.930	1.37	0.99	0.91	0.82	0.76	0.68	0.55	0.46	<b>18.069</b>	<b>13.381</b>	<b>9.953</b>	<b>14.105</b>	<b>15.176</b>	<b>18.069</b>
<b>24718</b>	13.274	1.66	1.21	1.11	0.99	0.92	0.83	0.66	0.55	<b>21.889</b>	<b>17.693</b>	<b>11.152</b>	<b>16.817</b>	<b>17.087</b>	<b>21.889</b>
<b>24720</b>	15.595	1.95	1.42	1.30	1.16	1.08	0.97	0.78	0.65	<b>25.674</b>	<b>21.100</b>	<b>12.341</b>	<b>18.675</b>	<b>20.041</b>	<b>25.674</b>
<b>24723</b>	18.958	2.37	1.72	1.58	1.41	1.32	1.18	0.95	0.79	<b>31.161</b>	<b>25.211</b>	<b>14.106</b>	<b>21.479</b>	<b>24.324</b>	<b>31.069</b>
<b>26716</b>	12.102	1.51	1.10	1.01	0.90	0.84	0.76	0.61	0.50	<b>19.978</b>	<b>15.841</b>	<b>12.566</b>	<b>15.595</b>	<b>17.376</b>	<b>19.978</b>
<b>26718</b>	14.745	1.84	1.34	1.23	1.10	1.02	0.92	0.74	0.61	<b>24.282</b>	<b>20.840</b>	<b>14.082</b>	<b>18.954</b>	<b>19.468</b>	<b>24.282</b>
<b>26720</b>	17.365	2.17	1.58	1.45	1.30	1.21	1.09	0.87	0.72	<b>28.550</b>	<b>24.314</b>	<b>15.587</b>	<b>21.306</b>	<b>22.286</b>	<b>28.550</b>
<b>26723</b>	21.178	2.65	1.93	1.76	1.58	1.47	1.32	1.06	0.88	<b>34.763</b>	<b>29.077</b>	<b>17.822</b>	<b>24.480</b>	<b>27.136</b>	<b>34.763</b>
<b>26725</b>	23.632	2.95	2.15	1.97	1.76	1.64	1.48	1.18	0.98	<b>38.764</b>	<b>32.161</b>	<b>19.298</b>	<b>26.607</b>	<b>30.259</b>	<b>38.501</b>
<b>30718</b>	16.716	2.09	1.52	1.39	1.25	1.16	1.04	0.84	0.70	<b>27.489</b>	<b>25.189</b>	<b>18.906</b>	<b>21.458</b>	<b>22.989</b>	<b>27.489</b>
<b>30720</b>	19.774	2.47	1.80	1.65	1.48	1.37	1.24	0.99	0.82	<b>32.463</b>	<b>29.110</b>	<b>20.932</b>	<b>25.138</b>	<b>25.433</b>	<b>32.463</b>