







Disc Springs to DIN 2093

Disc Springs to DIN 2093								15% Defl.	30% Defl.	45% Defl.	60% Defl.	75% Defl.	90% Defl.						
																			
								Defl. Force mm N	Defl. Force mm N	Defl. Force mm N	Defl. Force mm N	Defl. Force mm N	Defl. Force mm N						
Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Overall Ht. (lo) mm	Cone Ht. Thick. Ratio	Weight per 1000 pcs.	Stress		Stress		Stress		Stress		Stress		Stress	
								δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}
								N/mm ²		N/mm ²		N/mm ²		N/mm ²		N/mm ²		N/mm ²	
D63203	6.0	3.2	.30	.15	.45	.50	.05	.02 27 198 273	.05 53 420 531	.07 76 664 774	.09 98 930 1,002	.11 119 1,220 1,215	.14 140 1,532 1,414						
D83202	8.0	3.2	.20	.20	.40	1.00	.07	.03 8 37 144	.06 14 97 276	.09 19 179 396	.12 23 283 504	.15 26 409 600	.18 28 558 684						
D83203	8.0	3.2	.30	.25	.55	.83	.10	.04 29 113 247	.08 53 261 475	.11 73 443 684	.15 90 660 875	.19 104 912 1,046	.23 117 1,198 1,199						
D83204	8.0	3.2	.40	.20	.60	.50	.13	.03 43 212 214	.06 82 446 416	.09 119 702 605	.12 153 981 783	.15 186 1,281 949	.18 217 1,604 1,102						
D83205	8.0	3.2	.50	.20	.70	.40	.17	.03 79 299 249	.06 153 620 485	.09 223 964 710	.12 291 1,329 922	.15 357 1,717 1,123	.18 422 2,128 1,311						
D84202	8.0	4.2	.20	.25	.45	1.25	.06	.04 14 -7 253	.08 24 21 483	.11 32 85 690	.15 36 185 873	.19 39 319 1,034	.23 41 489 1,172						
D84203	8.0	4.2	.30	.25	.55	.83	.09	.04 33 99 308	.08 60 233 594	.11 83 402 856	.15 102 607 1,095	.19 118 847 1,312	.23 133 1,123 1,505						
D84204	8.0	4.2	.40	.20	.60	.50	.11	.03 48 198 268	.06 93 419 522	.09 134 663 761	.12 173 929 985	.15 210 1,218 1,194	.18 245 1,530 1,389						
D103203	10.0	3.2	.30	.35	.65	1.17	.17	.05 34 39 234	.11 59 124 447	.16 77 254 638	.21 90 430 808	.26 98 652 957	.32 105 919 1,085						
D103204	10.0	3.2	.40	.30	.70	.75	.22	.05 48 160 214	.09 88 353 412	.14 123 579 595	.18 153 840 762	.23 179 1,134 913	.27 204 1,461 1,048						
D103205	10.0	3.2	.50	.25	.75	.50	.28	.04 64 238 189	.08 123 500 368	.11 178 784 535	.15 229 1,092 692	.19 279 1,424 838	.23 326 1,779 972						
D104204	10.0	4.2	.40	.30	.70	.75	.20	.05 50 134 249	.09 93 300 480	.14 129 497 693	.18 161 727 888	.23 189 988 1,066	.27 215 1,282 1,225						
D104205	10.0	4.2	.50	.25	.75	.50	.25	.04 68 208 221	.08 130 438 430	.11 188 690 626	.15 242 964 810	.19 294 1,260 981	.23 344 1,578 1,140						
D104206	10.0	4.2	.60	.25	.85	.42	.30	.04 111 277 250	.08 216 575 487	.11 315 896 712	.15 410 1,239 925	.19 502 1,604 1,125	.23 592 1,991 1,313						
D1052025	10.0	5.2	.25	.30	.55	1.20	.11	.05 20 2 235	.09 35 37 449	.14 45 104 642	.18 53 203 814	.23 58 336 965	.27 61 500 1,095						
D105204	10.0	5.2	.40	.30	.70	.75	.18	.05 56 124 298	.09 103 280 575	.14 143 468 832	.18 178 690 1,067	.23 209 943 1,281	.27 238 1,230 1,474						
D105205	10.0	5.2	.50	.25	.75	.50	.22	.04 75 198 266	.08 144 419 517	.11 208 663 753	.15 268 929 975	.19 325 1,218 1,182	.23 381 1,529 1,375						
D124204	12.0	4.2	.40	.40	.80	1.00	.31	.06 55 76 238	.12 98 193 455	.18 132 350 653	.24 158 548 830	.30 178 786 988	.36 195 1,064 1,125						
D124205	12.0	4.2	.50	.35	.85	.70	.39	.05 73 165 219	.11 136 361 423	.16 191 589 612	.21 240 847 785	.26 284 1,136 943	.32 325 1,456 1,086						
D124206	12.0	4.2	.60	.40	1.00	.67	.47	.06 141 239 295	.12 263 519 569	.18 372 839 824	.24 468 1,199 1,058	.30 557 1,600 1,273	.36 640 2,041 1,467						
D125205	12.0	5.2	.50	.40	.90	.80	.36	.06 96 137 303	.12 176 314 584	.18 243 530 842	.24 300 785 1,078	.30 350 1,080 1,291	.36 395 1,414 1,482						
D125206	12.0	5.2	.60	.35	.95	.58	.43	.05 122 213 279	.11 231 456 540	.16 330 730 785	.21 421 1,033 1,012	.26 506 1,367 1,222	.32 588 1,730 1,415						
D126205	12.0	6.2	.50	.35	.85	.70	.33	.05 84 139 291	.11 157 308 563	.16 220 509 815	.21 276 740 1,047	.26 326 1,001 1,259	.32 374 1,294 1,452						
D126206	12.0	6.2	.60	.35	.95	.58	.39	.05 133 204 325	.11 252 440 631	.16 360 706 916	.21 459 1,002 1,182	.26 552 1,329 1,429	.32 640 1,687 1,655						
D1255205	12.5	5.2	.50	.35	.85	.70	.40	.05 70 138 224	.11 131 304 432	.16 183 497 625	.21 230 718 803	.26 272 967 965	.32 312 1,244 1,112						
D12562035	12.5	6.2	.35	.45	.80	1.29	.25	.07 55 -14 314	.14 95 18 598	.20 123 97 854	.27 141 222 1,080	.34 151 393 1,278	.41 157 611 1,446						

Disc Springs to DIN 2093								15% Defl.		30% Defl.		45% Defl.		60% Defl.		75% Defl.		90% Defl.	
								Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N
Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Overall Ht. (lo) mm	Cone Ht. Thick. Ratio	Weight per 1000 pcs.	Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²			
								δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}	δ_{II}	δ_{III}
D1256205	12.5	6.2	.50	.35	.85	.70	.36	.05 76	.11 141	.16 198	.21 248	.26 293	.32 336	129 258	286 498	471 721	684 926	925 1,114	1,194 1,284
D1256206	12.5	6.2	.60	.35	.95	.58	.44	.05 119	.11 227	.16 324	.21 413	.26 496	.32 576	189 288	407 558	652 811	926 1,046	1,227 1,264	1,557 1,464
D1256207	12.5	6.2	.70	.30	1.00	.43	.51	.05 147	.09 284	.14 415	.18 539	.23 660	.27 777	235 259	491 505	767 739	1,064 959	1,382 1,167	1,720 1,361
D125621	12.5	6.2	1.00	.20	1.20	.20	.73	.03 257	.06 510	.09 760	.12 1,008	.15 1,254	.18 1,499	289 206	586 407	893 602	1,209 791	1,534 975	1,868 1,152
D1472035	14.0	7.2	.35	.45	.80	1.29	.31	.07 45	.14 78	.20 100	.27 115	.34 123	.41 128	-13 259	12 494	74 705	173 892	309 1,055	482 1,195
D147205	14.0	7.2	.50	.40	.90	.80	.44	.06 76	.12 140	.18 194	.24 239	.30 279	.36 315	94 258	217 497	370 717	553 919	764 1,101	1,005 1,265
D147208	14.0	7.2	.80	.30	1.10	.38	.71	.05 173	.09 338	.14 496	.18 648	.23 797	.27 943	228 235	473 460	735 674	1,013 878	1,308 1,071	1,619 1,253
D155204	15.0	5.2	.40	.55	.95	1.38	.49	.08 67	.17 115	.25 147	.33 166	.41 176	.50 180	-15 249	19 473	103 674	235 850	417 1,002	647 1,130
D155205	15.0	5.2	.50	.50	1.00	1.00	.61	.08 86	.15 154	.23 206	.30 246	.38 278	.45 305	77 236	195 453	353 650	551 826	790 983	1,070 1,119
D155206	15.0	5.2	.60	.45	1.05	.75	.73	.07 108	.14 200	.20 278	.27 347	.34 407	.41 463	151 222	334 428	551 618	800 792	1,082 949	1,397 1,090
D155207	15.0	5.2	.70	.40	1.10	.57	.85	.06 133	.12 252	.18 361	.24 461	.30 555	.36 645	206 206	439 399	697 579	981 746	1,291 901	1,627 1,043
D156205	15.0	6.2	.50	.50	1.00	1.00	.58	.08 89	.15 160	.23 214	.30 256	.38 289	.45 317	64 262	168 501	311 719	494 915	716 1,089	977 1,242
D156206	15.0	6.2	.60	.45	1.05	.75	.69	.07 112	.14 208	.20 290	.27 360	.34 424	.41 482	135 246	302 475	501 685	732 878	994 1,054	1,289 1,212
D156207	15.0	6.2	.70	.40	1.10	.57	.81	.06 138	.12 262	.18 376	.24 480	.30 578	.36 671	189 228	402 443	642 643	906 829	1,195 1,002	1,510 1,160
D158205	15.0	8.2	.50	.50	1.00	1.00	.49	.08 103	.15 184	.23 247	.30 295	.38 334	.45 365	51 334	142 640	275 919	448 1,171	662 1,396	917 1,593
D158207	15.0	8.2	.70	.40	1.10	.57	.68	.06 159	.12 303	.18 433	.24 553	.30 666	.36 774	178 293	382 569	612 827	868 1,067	1,150 1,291	1,459 1,496
D158208	15.0	8.2	.80	.40	1.20	.50	.78	.06 226	.12 434	.18 628	.24 809	.30 982	.36 1,150	226 320	478 622	757 906	1,061 1,173	1,392 1,423	1,749 1,655
D168204	16.0	8.2	.40	.50	.90	1.25	.47	.08 55	.15 96	.23 124	.30 143	.38 154	.45 162	-6 247	23 471	88 673	187 852	322 1,009	491 1,143
D168206	16.0	8.2	.60	.45	1.05	.75	.70	.07 109	.14 201	.20 280	.27 349	.34 410	.41 466	109 258	246 498	412 720	607 924	830 1,109	1,081 1,276
D168207	16.0	8.2	.70	.45	1.15	.64	.81	.07 159	.14 298	.20 422	.27 534	.34 637	.41 735	156 283	341 547	555 793	796 1,021	1,067 1,230	1,366 1,422
D168208	16.0	8.2	.80	.40	1.20	.50	.93	.06 190	.12 365	.18 527	.24 680	.30 825	.36 966	199 262	420 509	663 742	929 960	1,218 1,164	1,529 1,354
D168209	16.0	8.2	.90	.35	1.25	.39	1.05	.05 221	.11 431	.16 632	.21 825	.26 1,013	.32 1,197	226 238	469 465	729 681	1,006 886	1,301 1,080	1,613 1,263
D186204	18.0	6.2	.40	.60	1.00	1.50	.70	.09 57	.18 96	.27 121	.36 134	.45 139	.54 138	-32 198	-23 376	26 534	116 673	247 791	418 890
D186205	18.0	6.2	.50	.60	1.10	1.20	.88	.09 85	.18 149	.27 194	.36 225	.45 245	.54 259	23 217	86 414	190 591	335 748	520 885	746 1,003
D186206	18.0	6.2	.60	.60	1.20	1.00	1.06	.09 124	.18 221	.27 296	.36 355	.45 400	.54 438	78 236	196 452	354 647	554 823	794 980	1,074 1,116
D186207	18.0	6.2	.70	.55	1.25	.79	1.23	.08 150	.17 276	.25 382	.33 473	.41 553	.50 625	140 224	315 431	523 622	766 795	1,043 953	1,354 1,093

<h1>Disc Springs</h1> <h2>to DIN 2093</h2>								15% Defl.		30% Defl.		45% Defl.		60% Defl.		75% Defl.		90% Defl.	
								Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N
Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Overall Ht. (lo) mm	Cone Ht. Thick. Ratio	Weight per 1000 pcs.	Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²			
								δII	δIII	δII	δIII	δII	δIII	δII	δIII	δII	δIII	δII	δIII
D186208	18.0	6.2	.80	.50	1.30	.63	1.41	.08 179	.15 337	.23 479	.30 607	.38 726	.45 838						
D188205	18.0	8.2	.50	.60	1.10	1.20	.79	.09 92	.18 161	.27 209	.36 243	.45 265	.54 280						
D188207	18.0	8.2	.70	.55	1.25	.79	1.11	.08 161	.17 297	.25 412	.33 510	.41 596	.50 674						
D188208	18.0	8.2	.80	.50	1.30	.63	1.27	.08 193	.15 364	.23 516	.30 655	.38 783	.45 904						
D18821	18.0	8.2	1.00	.40	1.40	.40	1.58	.06 260	.12 505	.18 739	.24 963	.30 1,181	.36 1,395						
D1892045	18.0	9.2	.45	.60	1.05	1.33	.66	.09 80	.18 138	.27 176	.36 200	.45 214	.54 220						
D189207	18.0	9.2	.70	.50	1.20	.71	1.03	.08 147	.15 274	.23 383	.30 480	.38 566	.45 647						
D18921	18.0	9.2	1.00	.40	1.40	.40	1.48	.06 276	.12 536	.18 784	.24 1,023	.30 1,254	.36 1,481						
D208206	20.0	8.2	.60	.70	1.30	1.17	1.2	.11 141	.21 246	.32 322	.42 375	.53 412	.63 438						
D208207	20.0	8.2	.70	.65	1.35	.93	1.4	.10 168	.20 303	.29 411	.39 498	.49 569	.59 630						
D208208	20.0	8.2	.80	.60	1.40	.75	1.6	.09 199	.18 369	.27 514	.36 639	.45 751	.54 854						
D208209	20.0	8.2	.90	.55	1.45	.61	1.8	.08 233	.17 441	.25 627	.33 796	.41 954	.50 1,103						
D20821	20.0	8.2	1.00	.55	1.55	.55	2.1	.08 306	.17 583	.25 837	.33 1,073	.41 1,294	.50 1,508						
D2010204	20.0	10.2	.40	.50	.90	1.25	.7	.08 35	.15 61	.23 79	.30 91	.38 99	.45 103						
D2010205	20.0	10.2	.50	.65	1.15	1.30	.9	.10 94	.20 161	.29 208	.39 237	.49 254	.59 264						
D2010208	20.0	10.2	.80	.55	1.35	.69	1.5	.08 191	.17 357	.25 502	.33 631	.41 748	.50 858						
D2010209	20.0	10.2	.90	.55	1.45	.61	1.6	.08 257	.17 485	.25 690	.33 877	.41 1,050	.50 1,215						
D201021	20.0	10.2	1.00	.55	1.55	.55	1.8	.08 337	.17 642	.25 922	.33 1,181	.41 1,425	.50 1,660						
D2010211	20.0	10.2	1.10	.45	1.55	.41	2.0	.07 335	.14 652	.20 953	.27 1,241	.34 1,521	.41 1,795						
D20102125	20.0	10.2	1.25	.50	1.75	.40	2.3	.08 544	.15 1,059	.23 1,549	.30 2,020	.38 2,477	.45 2,925						
D2010215	20.0	10.2	1.50	.30	1.80	.20	2.7	.05 517	.09 1,026	.14 1,529	.18 2,027	.23 2,521	.27 3,013						
D22511206	22.5	11.2	.60	.80	1.40	1.33	1.4	.12 160	.24 274	.36 351	.48 399	.60 425	.72 439						
D22511208	22.5	11.2	.80	.65	1.45	.81	1.9	.10 195	.20 357	.29 493	.39 608	.49 707	.59 798						
D2251121	22.5	11.2	1.00	.65	1.65	.65	2.3	.10 334	.20 627	.29 887	.39 1,121	.49 1,335	.59 1,538						
D225112125	22.5	11.2	1.25	.50	1.75	.40	2.9	.08 424	.15 824	.23 1,206	.30 1,573	.38 1,929	.45 2,278						
D238207	23.0	8.2	.70	.80	1.50	1.14	2.0	.12 183	.24 321	.36 422	.48 493	.60 544	.72 581						

<h1>Disc Springs</h1> <h2>to DIN 2093</h2>								15% Defl.		30% Defl.		45% Defl.		60% Defl.		75% Defl.		90% Defl.	
								Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N	Defl. mm	Force N
Code No.	Outer Dia. (De) mm	Inner Dia. (Di) mm	Thick. (t) mm	Cone Ht. (ho) mm	Overall Ht. (lo) mm	Cone Ht. Thick. Ratio	Weight per 1000 pcs.	Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²		Stress N/mm ²			
								δII	δIII	δII	δIII	δII	δIII	δII	δIII	δII	δIII	δII	δIII
D238208	23.0	8.2	.80	.75	1.55	.94	2.3	.11 214	.23 385	.34 521	.45 630	.56 719	.68 795	.92 237	223 454	392 653	600 831	846 991	1,131 1,131
D238209	23.0	8.2	.90	.70	1.60	.78	2.6	.11 248	.21 457	.32 634	.42 785	.53 919	.63 1,041	139 227	312 438	519 632	759 808	1,032 969	1,340 1,112
D23821	23.0	8.2	1.00	.70	1.70	.70	2.8	.11 319	.21 595	.32 835	.42 1,048	.53 1,240	.63 1,419	178 241	389 465	634 673	913 863	1,225 1,037	1,571 1,194
D2310209	23.0	10.2	.90	.75	1.65	.83	2.4	.11 295	.23 539	.34 742	.45 912	.56 1,058	.68 1,189	115 289	269 555	459 800	687 1,024	953 1,225	1,257 1,404
D231021	23.0	10.2	1.00	.70	1.70	.70	2.6	.11 339	.21 631	.32 886	.42 1,112	.53 1,315	.63 1,506	158 277	349 535	573 774	829 994	1,119 1,195	1,441 1,377
D23102125	23.0	10.2	1.25	.65	1.90	.52	3.3	.10 537	.20 1,029	.29 1,483	.39 1,907	.49 2,310	.59 2,699	244 287	516 557	816 810	1,145 1,048	1,502 1,269	1,887 1,473
D231221	23.0	12.2	1.00	.60	1.60	.60	2.3	.09 296	.18 560	.27 797	.36 1,015	.45 1,217	.54 1,410	155 263	334 510	538 740	767 954	1,020 1,152	1,299 1,334
D23122125	23.0	12.2	1.25	.60	1.85	.48	2.9	.09 532	.18 1,023	.27 1,483	.36 1,916	.45 2,331	.54 2,734	231 304	488 591	768 862	1,074 1,117	1,404 1,356	1,760 1,579
D2312215	23.0	12.2	1.50	.50	2.00	.33	3.5	.08 705	.15 1,382	.23 2,036	.30 2,673	.38 3,297	.45 3,912	278 273	573 535	886 785	1,215 1,025	1,562 1,253	1,926 1,470
D251021	25.0	10.2	1.00	.75	1.75	.75	3.2	.11 311	.23 575	.34 801	.45 997	.56 1,172	.68 1,333	136 244	304 470	504 679	736 871	1,000 1,045	1,295 1,201
D2512207	25.0	12.2	.70	.90	1.60	1.29	2.1	.14 219	.27 378	.41 487	.54 558	.68 600	.81 624	-13 309	20 589	99 841	225 1,064	396 1,259	614 1,425
D2512209	25.0	12.2	.90	.70	1.60	.78	2.6	.11 233	.21 429	.32 595	.42 737	.53 862	.63 977	99 239	227 461	382 666	565 853	776 1,023	1,015 1,176
D251221	25.0	12.2	1.00	.80	1.80	.80	2.9	.12 371	.24 682	.36 943	.48 1,165	.60 1,359	.72 1,534	120 308	276 593	469 855	699 1,095	965 1,312	1,267 1,507
D25122125	25.0	12.2	1.25	.70	1.95	.56	3.7	.11 526	.21 1,002	.32 1,436	.42 1,837	.53 2,214	.63 2,577	205 291	438 564	699 821	988 1,059	1,305 1,281	1,649 1,485
D2512215	25.0	12.2	1.50	.55	2.05	.37	4.4	.08 634	.17 1,238	.25 1,818	.33 2,379	.41 2,926	.50 3,464	249 239	516 468	800 686	1,101 894	1,419 1,091	1,755 1,277
D2810208	28.0	10.2	.80	.95	1.75	1.19	3.4	.14 229	.29 399	.43 521	.57 605	.71 662	.86 701	23 232	88 443	195 633	343 802	532 950	763 1,076
D281021	28.0	10.2	1.00	.90	1.90	.90	4.2	.14 328	.27 595	.41 810	.54 984	.68 1,130	.81 1,257	101 238	239 456	415 656	628 837	878 998	1,166 1,141
D28102125	28.0	10.2	1.25	.80	2.05	.64	5.2	.12 460	.24 866	.36 1,227	.48 1,553	.60 1,853	.72 2,137	186 226	402 438	647 634	921 816	1,225 982	1,559 1,134
D2810215	28.0	10.2	1.50	.70	2.20	.47	6.3	.11 617	.21 1,190	.32 1,726	.42 2,235	.53 2,723	.63 3,197	247 211	517 411	809 600	1,124 777	1,461 943	1,821 1,097
D281221	28.0	12.2	1.00	.95	1.95	.95	3.9	.14 380	.29 683	.43 923	.57 1,114	.71 1,268	.86 1,400	80 288	201 553	362 795	564 1,013	807 1,208	1,090 1,379
D28122125	28.0	12.2	1.25	.85	2.10	.68	4.9	.13 530	.26 991	.38 1,395	.51 1,755	.64 2,083	.77 2,390	169 277	371 534	605 774	872 994	1,172 1,196	1,504 1,379
D2812215	28.0	12.2	1.50	.75	2.25	.50	5.9	.11 709	.23 1,361	.34 1,966	.45 2,535	.56 3,077	.68 3,603	235 261	496 506	782 738	1,094 955	1,431 1,157	1,793 1,345
D2814208	28.0	14.2	.80	1.00	1.80	1.25	2.9	.15 287	.30 497	.45 644	.60 741	.75 801	.90 839	-7 319	31 609	116 870	246 1,101	422 1,304	643 1,477
D281421	28.0	14.2	1.00	.80	1.80	.80	3.6	.12 303	.24 556	.36 769	.48 949	.60 1,107	.72 1,250	94 254	218 490	371 707	553 906	765 1,086	1,006 1,247
D28142125	28.0	14.2	1.25	.85	2.10	.68	4.5	.13 570	.26 1,065	.38 1,500	.51 1,887	.64 2,240	.77 2,570	161 315	356 609	583 882	844 1,134	1,138 1,365	1,465 1,574
D2814215	28.0	14.2	1.50	.65	2.15	.43	5.4	.10 633	.20 1,227	.29 1,789	.39 2,324	.49 2,841	.59 3,346	216 246	451 479	706 701	980 910	1,274 1,106	1,586 1,291