

P1230

SPRING PINS

Material

Carbon steel (CS70), hardened and tempered to HV420-545.

Technical Notes

To DIN 1481 (ISO 8752). Slotted springs consist of a single coil of spring steel, with an open slot sufficiently wide enough to enable the pin to reduce in diameter, as it is driven into the hole. The ends of the

pin have a bevelled chamfer, they are designed for plain drilled holes, but a countersink makes assembly easier, especially for the ISO 8752 type. Recommended hole tolerance H12.

l_1 tolerances:-
 1-10mm long - $\pm 0,25$
 12-50mm long - $\pm 0,50$
 over 50mm long - $\pm 0,75$.

Pins with a d_1 dimension of $>10\text{mm}$ may be delivered with one chamfer.

Tips

Where pins are to be installed in plastic it is recommended that they are de-oiled before use to avoid embrittlement of the plastic.

Order No.	d_1 nom.	d_1 min.	d_1 max.	Hole min.	Hole max.	d_2	l_1	l_2	w	Double shear kN
P1230.010-004	1.0	1.2	1.3	1.0	1.10	0.8	4	0.15	0.2	0.7
P1230.010-005	1.0	1.2	1.3	1.0	1.10	0.8	5	0.15	0.2	0.7
P1230.010-006	1.0	1.2	1.3	1.0	1.10	0.8	6	0.15	0.2	0.7
P1230.010-008	1.0	1.2	1.3	1.0	1.10	0.8	8	0.15	0.2	0.7
P1230.010-010	1.0	1.2	1.3	1.0	1.10	0.8	10	0.15	0.2	0.7
P1230.010-012	1.0	1.2	1.3	1.0	1.10	0.8	12	0.15	0.2	0.7
P1230.010-014	1.0	1.2	1.3	1.0	1.10	0.8	14	0.15	0.2	0.7
P1230.010-016	1.0	1.2	1.3	1.0	1.10	0.8	16	0.15	0.2	0.7
P1230.010-018	1.0	1.2	1.3	1.0	1.10	0.8	18	0.15	0.2	0.7
P1230.010-020	1.0	1.2	1.3	1.0	1.10	0.8	20	0.15	0.2	0.7
P1230.015-004	1.5	1.7	1.8	1.5	1.60	1.1	4	0.25	0.3	1.58
P1230.015-006	1.5	1.7	1.8	1.5	1.60	1.1	6	0.25	0.3	1.58
P1230.015-008	1.5	1.7	1.8	1.5	1.60	1.1	8	0.25	0.3	1.58
P1230.015-010	1.5	1.7	1.8	1.5	1.60	1.1	10	0.25	0.3	1.58
P1230.015-012	1.5	1.7	1.8	1.5	1.60	1.1	12	0.25	0.3	1.58
P1230.015-014	1.5	1.7	1.8	1.5	1.60	1.1	14	0.25	0.3	1.58
P1230.015-016	1.5	1.7	1.8	1.5	1.60	1.1	16	0.25	0.3	1.58
P1230.015-018	1.5	1.7	1.8	1.5	1.60	1.1	18	0.25	0.3	1.58
P1230.015-020	1.5	1.7	1.8	1.5	1.60	1.1	20	0.25	0.3	1.58
P1230.015-022	1.5	1.7	1.8	1.5	1.60	1.1	22	0.25	0.3	1.58
P1230.015-024	1.5	1.7	1.8	1.5	1.60	1.1	24	0.25	0.3	1.58
P1230.015-026	1.5	1.7	1.8	1.5	1.60	1.1	26	0.25	0.3	1.58
P1230.015-028	1.5	1.7	1.8	1.5	1.60	1.1	28	0.25	0.3	1.58
P1230.015-030	1.5	1.7	1.8	1.5	1.60	1.1	30	0.25	0.3	1.58
P1230.020-004	2.0	2.3	2.4	2.0	2.10	1.5	4	0.35	0.4	2.82
P1230.020-006	2.0	2.3	2.4	2.0	2.10	1.5	5	0.35	0.4	2.82
P1230.020-008	2.0	2.3	2.4	2.0	2.10	1.5	8	0.35	0.4	2.82
P1230.020-010	2.0	2.3	2.4	2.0	2.10	1.5	10	0.35	0.4	2.82



Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w	Double shear kN
P1230.020-012	2.0	2.3	2.4	2.0	2.10	1.5	12	0.35	0.4	2.82
P1230.020-014	2.0	2.3	2.4	2.0	2.10	1.5	14	0.35	0.4	2.82
P1230.020-016	2.0	2.3	2.4	2.0	2.10	1.5	16	0.35	0.4	2.82
P1230.020-018	2.0	2.3	2.4	2.0	2.10	1.5	18	0.35	0.4	2.82
P1230.020-020	2.0	2.3	2.4	2.0	2.10	1.5	20	0.35	0.4	2.82
P1230.020-022	2.0	2.3	2.4	2.0	2.10	1.5	22	0.35	0.4	2.82
P1230.020-024	2.0	2.3	2.4	2.0	2.10	1.5	24	0.35	0.4	2.82
P1230.020-026	2.0	2.3	2.4	2.0	2.10	1.5	26	0.35	0.4	2.82
P1230.020-028	2.0	2.3	2.4	2.0	2.10	1.5	28	0.35	0.4	2.82
P1230.020-030	2.0	2.3	2.4	2.0	2.10	1.5	30	0.35	0.4	2.82
P1230.020-035	2.0	2.3	2.4	2.0	2.10	1.5	35	0.35	0.4	2.82
P1230.020-040	2.0	2.3	2.4	2.0	2.10	1.5	40	0.35	0.4	2.82
P1230.025-004	2.5	2.8	2.9	2.5	2.60	1.8	4	0.4	0.5	4.38
P1230.025-005	2.5	2.8	2.9	2.5	2.60	1.8	5	0.4	0.5	4.38
P1230.025-006	2.5	2.8	2.9	2.5	2.60	1.8	6	0.4	0.5	4.38
P1230.025-008	2.5	2.8	2.9	2.5	2.60	1.8	8	0.4	0.5	4.38
P1230.025-010	2.5	2.8	2.9	2.5	2.60	1.8	10	0.4	0.5	4.38
P1230.025-012	2.5	2.8	2.9	2.5	2.60	1.8	12	0.4	0.5	4.38
P1230.025-014	2.5	2.8	2.9	2.5	2.60	1.8	14	0.4	0.5	4.38
P1230.025-016	2.5	2.8	2.9	2.5	2.60	1.8	16	0.4	0.5	4.38
P1230.025-018	2.5	2.8	2.9	2.5	2.60	1.8	18	0.4	0.5	4.38
P1230.025-020	2.5	2.8	2.9	2.5	2.60	1.8	20	0.4	0.5	4.38
P1230.025-022	2.5	2.8	2.9	2.5	2.60	1.8	22	0.4	0.5	4.38
P1230.025-024	2.5	2.8	2.9	2.5	2.60	1.8	24	0.4	0.5	4.38
P1230.025-026	2.5	2.8	2.9	2.5	2.60	1.8	26	0.4	0.5	4.38
P1230.025-028	2.5	2.8	2.9	2.5	2.60	1.8	28	0.4	0.5	4.38
P1230.025-030	2.5	2.8	2.9	2.5	2.60	1.8	30	0.4	0.5	4.38
P1230.025-035	2.5	2.8	2.9	2.5	2.60	1.8	35	0.4	0.5	4.38
P1230.025-040	2.5	2.8	2.9	2.5	2.60	1.8	40	0.4	0.5	4.38
P1230.030-004	3.0	3.3	3.5	3.0	3.10	2.1	4	0.5	0.6	6.32
P1230.030-005	3.0	3.3	3.5	3.0	3.10	2.1	5	0.5	0.6	6.32
P1230.030-006	3.0	3.3	3.5	3.0	3.10	2.1	6	0.5	0.6	6.32
P1230.030-008	3.0	3.3	3.5	3.0	3.10	2.1	8	0.5	0.6	6.32
P1230.030-010	3.0	3.3	3.5	3.0	3.10	2.1	10	0.5	0.6	6.32
P1230.030-012	3.0	3.3	3.5	3.0	3.10	2.1	12	0.5	0.6	6.32
P1230.030-014	3.0	3.3	3.5	3.0	3.10	2.1	14	0.5	0.6	6.32
P1230.030-016	3.0	3.3	3.5	3.0	3.10	2.1	16	0.5	0.6	6.32
P1230.030-018	3.0	3.3	3.5	3.0	3.10	2.1	18	0.5	0.6	6.32
P1230.030-020	3.0	3.3	3.5	3.0	3.10	2.1	20	0.5	0.6	6.32
P1230.030-022	3.0	3.3	3.5	3.0	3.10	2.1	22	0.5	0.6	6.32
P1230.030-024	3.0	3.3	3.5	3.0	3.10	2.1	24	0.5	0.6	6.32
P1230.030-026	3.0	3.3	3.5	3.0	3.10	2.1	26	0.5	0.6	6.32
P1230.030-028	3.0	3.3	3.5	3.0	3.10	2.1	28	0.5	0.6	6.32
P1230.030-030	3.0	3.3	3.5	3.0	3.10	2.1	30	0.5	0.6	6.32
P1230.030-035	3.0	3.3	3.5	3.0	3.10	2.1	35	0.5	0.6	6.32
P1230.030-040	3.0	3.3	3.5	3.0	3.10	2.1	40	0.5	0.6	6.32
P1230.030-045	3.0	3.3	3.5	3.0	3.10	2.1	45	0.5	0.6	6.32
P1230.035-004	3.5	3.8	4.0	3.5	3.62	2.3	4	0.6	0.7	9.06
P1230.035-005	3.5	3.8	4.0	3.5	3.62	2.3	5	0.6	0.7	9.06
P1230.035-006	3.5	3.8	4.0	3.5	3.62	2.3	6	0.6	0.7	9.06
P1230.035-008	3.5	3.8	4.0	3.5	3.62	2.3	8	0.6	0.7	9.06
P1230.035-010	3.5	3.8	4.0	3.5	3.62	2.3	10	0.6	0.7	9.06
P1230.035-012	3.5	3.8	4.0	3.5	3.62	2.3	12	0.6	0.7	9.06
P1230.035-014	3.5	3.8	4.0	3.5	3.62	2.3	14	0.6	0.7	9.06
P1230.035-016	3.5	3.8	4.0	3.5	3.62	2.3	16	0.6	0.7	9.06
P1230.035-018	3.5	3.8	4.0	3.5	3.62	2.3	18	0.6	0.7	9.06
P1230.035-020	3.5	3.8	4.0	3.5	3.62	2.3	20	0.6	0.7	9.06
P1230.035-022	3.5	3.8	4.0	3.5	3.62	2.3	22	0.6	0.7	9.06
P1230.035-024	3.5	3.8	4.0	3.5	3.62	2.3	24	0.6	0.7	9.06
P1230.035-026	3.5	3.8	4.0	3.5	3.62	2.3	26	0.6	0.7	9.06
P1230.035-028	3.5	3.8	4.0	3.5	3.62	2.3	28	0.6	0.7	9.06
P1230.035-030	3.5	3.8	4.0	3.5	3.62	2.3	30	0.6	0.7	9.06
P1230.035-035	3.5	3.8	4.0	3.5	3.62	2.3	35	0.6	0.7	9.06
P1230.035-040	3.5	3.8	4.0	3.5	3.62	2.3	40	0.6	0.7	9.06
P1230.035-045	3.5	3.8	4.0	3.5	3.62	2.3	45	0.6	0.7	9.06
P1230.035-050	3.5	3.8	4.0	3.5	3.62	2.3	50	0.6	0.7	9.06
P1230.040-004	4.0	4.4	4.6	4.0	4.12	2.8	4	0.65	0.8	11.24
P1230.040-005	4.0	4.4	4.6	4.0	4.12	2.8	5	0.65	0.8	11.24



Steel Slotted Pins



Spring Pins

Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w	Double shear kN
P1230.040-006	4.0	4.4	4.6	4.0	4.12	2.8	6	0.65	0.8	11.24
P1230.040-008	4.0	4.4	4.6	4.0	4.12	2.8	8	0.65	0.8	11.24
P1230.040-010	4.0	4.4	4.6	4.0	4.12	2.8	10	0.65	0.8	11.24
P1230.040-012	4.0	4.4	4.6	4.0	4.12	2.8	12	0.65	0.8	11.24
P1230.040-014	4.0	4.4	4.6	4.0	4.12	2.8	14	0.65	0.8	11.24
P1230.040-016	4.0	4.4	4.6	4.0	4.12	2.8	16	0.65	0.8	11.24
P1230.040-018	4.0	4.4	4.6	4.0	4.12	2.8	18	0.65	0.8	11.24
P1230.040-020	4.0	4.4	4.6	4.0	4.12	2.8	20	0.65	0.8	11.24
P1230.040-022	4.0	4.4	4.6	4.0	4.12	2.8	22	0.65	0.8	11.24
P1230.040-024	4.0	4.4	4.6	4.0	4.12	2.8	24	0.65	0.8	11.24
P1230.040-026	4.0	4.4	4.6	4.0	4.12	2.8	26	0.65	0.8	11.24
P1230.040-028	4.0	4.4	4.6	4.0	4.12	2.8	28	0.65	0.8	11.24
P1230.040-030	4.0	4.4	4.6	4.0	4.12	2.8	30	0.65	0.8	11.24
P1230.040-035	4.0	4.4	4.6	4.0	4.12	2.8	35	0.65	0.8	11.24
P1230.040-040	4.0	4.4	4.6	4.0	4.12	2.8	40	0.65	0.8	11.24
P1230.040-045	4.0	4.4	4.6	4.0	4.12	2.8	45	0.65	0.8	11.24
P1230.040-050	4.0	4.4	4.6	4.0	4.12	2.8	50	0.65	0.8	11.24
P1230.040-055	4.0	4.4	4.6	4.0	4.12	2.8	55	0.65	0.8	11.24
P1230.040-060	4.0	4.4	4.6	4.0	4.12	2.8	60	0.65	0.8	11.24
P1230.050-006	5.0	5.4	5.6	5.0	5.12	3.4	6	0.9	1.0	17.54
P1230.050-008	5.0	5.4	5.6	5.0	5.12	3.4	8	0.9	1.0	17.54
P1230.050-010	5.0	5.4	5.6	5.0	5.12	3.4	10	0.9	1.0	17.54
P1230.050-012	5.0	5.4	5.6	5.0	5.12	3.4	12	0.9	1.0	17.54
P1230.050-014	5.0	5.4	5.6	5.0	5.12	3.4	14	0.9	1.0	17.54
P1230.050-016	5.0	5.4	5.6	5.0	5.12	3.4	16	0.9	1.0	17.54
P1230.050-018	5.0	5.4	5.6	5.0	5.12	3.4	18	0.9	1.0	17.54
P1230.050-020	5.0	5.4	5.6	5.0	5.12	3.4	20	0.9	1.0	17.54
P1230.050-022	5.0	5.4	5.6	5.0	5.12	3.4	22	0.9	1.0	17.54
P1230.050-024	5.0	5.4	5.6	5.0	5.12	3.4	24	0.9	1.0	17.54
P1230.050-026	5.0	5.4	5.6	5.0	5.12	3.4	26	0.9	1.0	17.54
P1230.050-028	5.0	5.4	5.6	5.0	5.12	3.4	28	0.9	1.0	17.54
P1230.050-030	5.0	5.4	5.6	5.0	5.12	3.4	30	0.9	1.0	17.54
P1230.050-035	5.0	5.4	5.6	5.0	5.12	3.4	35	0.9	1.0	17.54
P1230.050-040	5.0	5.4	5.6	5.0	5.12	3.4	40	0.9	1.0	17.54
P1230.050-045	5.0	5.4	5.6	5.0	5.12	3.4	45	0.9	1.0	17.54
P1230.050-050	5.0	5.4	5.6	5.0	5.12	3.4	50	0.9	1.0	17.54
P1230.050-055	5.0	5.4	5.6	5.0	5.12	3.4	55	0.9	1.0	17.54
P1230.050-060	5.0	5.4	5.6	5.0	5.12	3.4	60	0.9	1.0	17.54
P1230.050-065	5.0	5.4	5.6	5.0	5.12	3.4	65	0.9	1.0	17.54
P1230.050-070	5.0	5.4	5.6	5.0	5.12	3.4	70	0.9	1.0	17.54
P1230.050-075	5.0	5.4	5.6	5.0	5.12	3.4	75	0.9	1.0	17.54
P1230.050-080	5.0	5.4	5.6	5.0	5.12	3.4	80	0.9	1.0	17.54
P1230.060-008	6.0	6.4	6.7	6.0	6.12	3.9	8	1.2	1.2	26.04
P1230.060-010	6.0	6.4	6.7	6.0	6.12	3.9	10	1.2	1.2	26.04
P1230.060-012	6.0	6.4	6.7	6.0	6.12	3.9	12	1.2	1.2	26.04
P1230.060-014	6.0	6.4	6.7	6.0	6.12	3.9	14	1.2	1.2	26.04
P1230.060-016	6.0	6.4	6.7	6.0	6.12	3.9	16	1.2	1.2	26.04
P1230.060-018	6.0	6.4	6.7	6.0	6.12	3.9	18	1.2	1.2	26.04
P1230.060-020	6.0	6.4	6.7	6.0	6.12	3.9	20	1.2	1.2	26.04
P1230.060-022	6.0	6.4	6.7	6.0	6.12	3.9	22	1.2	1.2	26.04
P1230.060-024	6.0	6.4	6.7	6.0	6.12	3.9	24	1.2	1.2	26.04
P1230.060-026	6.0	6.4	6.7	6.0	6.12	3.9	26	1.2	1.2	26.04
P1230.060-028	6.0	6.4	6.7	6.0	6.12	3.9	28	1.2	1.2	26.04
P1230.060-030	6.0	6.4	6.7	6.0	6.12	3.9	30	1.2	1.2	26.04
P1230.060-035	6.0	6.4	6.7	6.0	6.12	3.9	35	1.2	1.2	26.04
P1230.060-040	6.0	6.4	6.7	6.0	6.12	3.9	40	1.2	1.2	26.04
P1230.060-045	6.0	6.4	6.7	6.0	6.12	3.9	45	1.2	1.2	26.04
P1230.060-050	6.0	6.4	6.7	6.0	6.12	3.9	50	1.2	1.2	26.04
P1230.060-055	6.0	6.4	6.7	6.0	6.12	3.9	55	1.2	1.2	26.04
P1230.060-060	6.0	6.4	6.7	6.0	6.12	3.9	60	1.2	1.2	26.04
P1230.060-065	6.0	6.4	6.7	6.0	6.12	3.9	65	1.2	1.2	26.04
P1230.060-070	6.0	6.4	6.7	6.0	6.12	3.9	70	1.2	1.2	26.04
P1230.060-075	6.0	6.4	6.7	6.0	6.12	3.9	75	1.2	1.2	26.04
P1230.060-080	6.0	6.4	6.7	6.0	6.12	3.9	80	1.2	1.2	26.04
P1230.060-085	6.0	6.4	6.7	6.0	6.12	3.9	85	1.2	1.2	26.04
P1230.060-090	6.0	6.4	6.7	6.0	6.12	3.9	90	1.2	1.2	26.04
P1230.060-095	6.0	6.4	6.7	6.0	6.12	3.9	95	1.2	1.2	26.04
P1230.060-100	6.0	6.4	6.7	6.0	6.12	3.9	100	1.2	1.2	26.04

SPRING PINS



Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w	Double shear kN
P1230.080-008	8.0	8.5	8.8	8.0	8.15	5.5	8	2.0	1.5	42.76
P1230.080-010	8.0	8.5	8.8	8.0	8.15	5.5	10	2.0	1.5	42.76
P1230.080-012	8.0	8.5	8.8	8.0	8.15	5.5	12	2.0	1.5	42.76
P1230.080-014	8.0	8.5	8.8	8.0	8.15	5.5	14	2.0	1.5	42.76
P1230.080-016	8.0	8.5	8.8	8.0	8.15	5.5	16	2.0	1.5	42.76
P1230.080-018	8.0	8.5	8.8	8.0	8.15	5.5	18	2.0	1.5	42.76
P1230.080-020	8.0	8.5	8.8	8.0	8.15	5.5	20	2.0	1.5	42.76
P1230.080-022	8.0	8.5	8.8	8.0	8.15	5.5	22	2.0	1.5	42.76
P1230.080-024	8.0	8.5	8.8	8.0	8.15	5.5	24	2.0	1.5	42.76
P1230.080-026	8.0	8.5	8.8	8.0	8.15	5.5	26	2.0	1.5	42.76
P1230.080-028	8.0	8.5	8.8	8.0	8.15	5.5	28	2.0	1.5	42.76
P1230.080-030	8.0	8.5	8.8	8.0	8.15	5.5	30	2.0	1.5	42.76
P1230.080-035	8.0	8.5	8.8	8.0	8.15	5.5	35	2.0	1.5	42.76
P1230.080-040	8.0	8.5	8.8	8.0	8.15	5.5	40	2.0	1.5	42.76
P1230.080-045	8.0	8.5	8.8	8.0	8.15	5.5	45	2.0	1.5	42.76
P1230.080-050	8.0	8.5	8.8	8.0	8.15	5.5	50	2.0	1.5	42.76
P1230.080-055	8.0	8.5	8.8	8.0	8.15	5.5	55	2.0	1.5	42.76
P1230.080-060	8.0	8.5	8.8	8.0	8.15	5.5	60	2.0	1.5	42.76
P1230.080-065	8.0	8.5	8.8	8.0	8.15	5.5	65	2.0	1.5	42.76
P1230.080-070	8.0	8.5	8.8	8.0	8.15	5.5	70	2.0	1.5	42.76
P1230.080-075	8.0	8.5	8.8	8.0	8.15	5.5	75	2.0	1.5	42.76
P1230.080-080	8.0	8.5	8.8	8.0	8.15	5.5	80	2.0	1.5	42.76
P1230.080-085	8.0	8.5	8.8	8.0	8.15	5.5	85	2.0	1.5	42.76
P1230.080-090	8.0	8.5	8.8	8.0	8.15	5.5	90	2.0	1.5	42.76
P1230.080-095	8.0	8.5	8.8	8.0	8.15	5.5	95	2.0	1.5	42.76
P1230.080-100	8.0	8.5	8.8	8.0	8.15	5.5	100	2.0	1.5	42.76
P1230.080-120	8.0	8.5	8.8	8.0	8.15	5.5	120	2.0	1.5	42.76
P1230.100-010	10.0	10.5	10.8	10.0	10.5	6.5	10	2.0	2.0	70.16
P1230.100-012	10.0	10.5	10.8	10.0	10.5	6.5	12	2.0	2.0	70.16
P1230.100-014	10.0	10.5	10.8	10.0	10.5	6.5	14	2.0	2.0	70.16
P1230.100-016	10.0	10.5	10.8	10.0	10.5	6.5	16	2.0	2.0	70.16
P1230.100-018	10.0	10.5	10.8	10.0	10.5	6.5	18	2.0	2.0	70.16
P1230.100-020	10.0	10.5	10.8	10.0	10.5	6.5	20	2.0	2.0	70.16
P1230.100-022	10.0	10.5	10.8	10.0	10.5	6.5	22	2.0	2.0	70.16
P1230.100-024	10.0	10.5	10.8	10.0	10.5	6.5	24	2.0	2.0	70.16
P1230.100-026	10.0	10.5	10.8	10.0	10.5	6.5	26	2.0	2.0	70.16
P1230.100-028	10.0	10.5	10.8	10.0	10.5	6.5	28	2.0	2.0	70.16
P1230.100-030	10.0	10.5	10.8	10.0	10.5	6.5	30	2.0	2.0	70.16
P1230.100-035	10.0	10.5	10.8	10.0	10.5	6.5	35	2.0	2.0	70.16
P1230.100-040	10.0	10.5	10.8	10.0	10.5	6.5	40	2.0	2.0	70.16
P1230.100-045	10.0	10.5	10.8	10.0	10.5	6.5	45	2.0	2.0	70.16
P1230.100-050	10.0	10.5	10.8	10.0	10.5	6.5	50	2.0	2.0	70.16
P1230.100-055	10.0	10.5	10.8	10.0	10.5	6.5	55	2.0	2.0	70.16
P1230.100-060	10.0	10.5	10.8	10.0	10.5	6.5	60	2.0	2.0	70.16
P1230.100-065	10.0	10.5	10.8	10.0	10.5	6.5	65	2.0	2.0	70.16
P1230.100-070	10.0	10.5	10.8	10.0	10.5	6.5	70	2.0	2.0	70.16
P1230.100-075	10.0	10.5	10.8	10.0	10.5	6.5	75	2.0	2.0	70.16
P1230.100-080	10.0	10.5	10.8	10.0	10.5	6.5	80	2.0	2.0	70.16
P1230.100-085	10.0	10.5	10.8	10.0	10.5	6.5	85	2.0	2.0	70.16
P1230.100-090	10.0	10.5	10.8	10.0	10.5	6.5	90	2.0	2.0	70.16
P1230.100-095	10.0	10.5	10.8	10.0	10.5	6.5	95	2.0	2.0	70.16
P1230.100-100	10.0	10.5	10.8	10.0	10.5	6.5	100	2.0	2.0	70.16
P1230.100-120	10.0	10.5	10.8	10.0	10.5	6.5	120	2.0	2.0	70.16
P1230.100-130	10.0	10.5	10.8	10.0	10.5	6.5	130	2.0	2.0	70.16
P1230.100-140	10.0	10.5	10.8	10.0	10.5	6.5	140	2.0	2.0	70.16
P1230.100-150	10.0	10.5	10.8	10.0	10.5	6.5	150	2.0	2.0	70.16
P1230.100-160	10.0	10.5	10.8	10.0	10.5	6.5	160	2.0	2.0	70.16
P1230.120-010	12.0	12.5	12.8	12.0	12.17	7.5	10	2.0	2.5	104.1
P1230.120-012	12.0	12.5	12.8	12.0	12.17	7.5	12	2.0	2.5	104.1
P1230.120-014	12.0	12.5	12.8	12.0	12.17	7.5	14	2.0	2.5	104.1
P1230.120-016	12.0	12.5	12.8	12.0	12.17	7.5	16	2.0	2.5	104.1
P1230.120-018	12.0	12.5	12.8	12.0	12.17	7.5	18	2.0	2.5	104.1
P1230.120-020	12.0	12.5	12.8	12.0	12.17	7.5	20	2.0	2.5	104.1
P1230.120-022	12.0	12.5	12.8	12.0	12.17	7.5	22	2.0	2.5	104.1
P1230.120-024	12.0	12.5	12.8	12.0	12.17	7.5	24	2.0	2.5	104.1
P1230.120-026	12.0	12.5	12.8	12.0	12.17	7.5	26	2.0	2.5	104.1
P1230.120-028	12.0	12.5	12.8	12.0	12.17	7.5	28	2.0	2.5	104.1
P1230.120-030	12.0	12.5	12.8	12.0	12.17	7.5	30	2.0	2.5	104.1



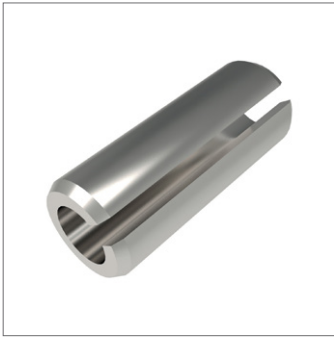
Steel Slotted Pins



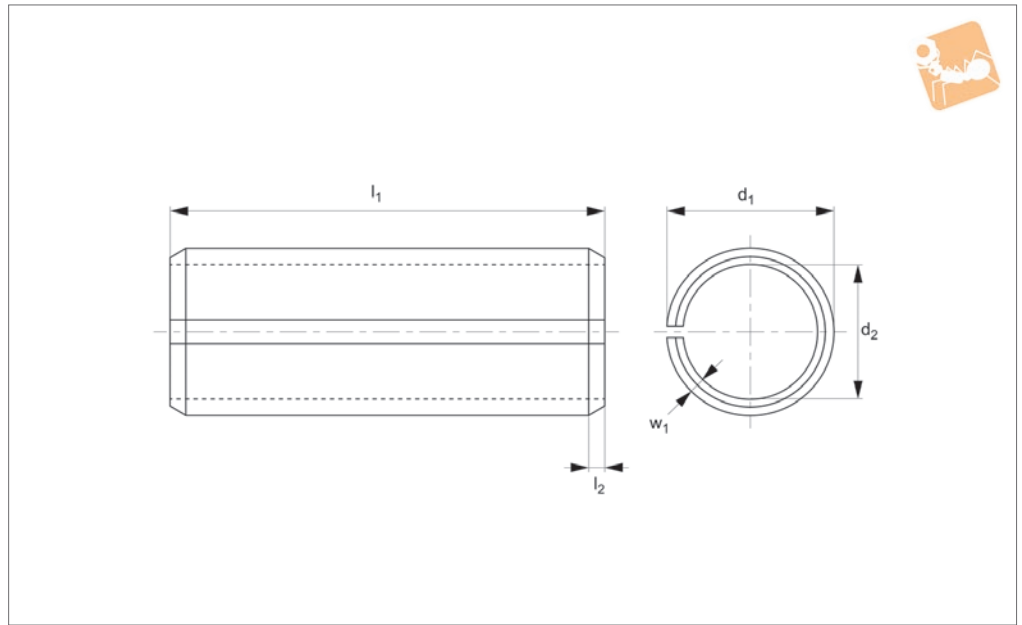
Spring Pins

Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w	Double shear kN
P1230.120-035	12.0	12.5	12.8	12.0	12.17	7.5	35	2.0	2.5	104.1
P1230.120-040	12.0	12.5	12.8	12.0	12.17	7.5	40	2.0	2.5	104.1
P1230.120-045	12.0	12.5	12.8	12.0	12.17	7.5	45	2.0	2.5	104.1
P1230.120-050	12.0	12.5	12.8	12.0	12.17	7.5	50	2.0	2.5	104.1
P1230.120-055	12.0	12.5	12.8	12.0	12.17	7.5	55	2.0	2.5	104.1
P1230.120-060	12.0	12.5	12.8	12.0	12.17	7.5	60	2.0	2.5	104.1
P1230.120-065	12.0	12.5	12.8	12.0	12.17	7.5	65	2.0	2.5	104.1
P1230.120-070	12.0	12.5	12.8	12.0	12.17	7.5	70	2.0	2.5	104.1
P1230.120-075	12.0	12.5	12.8	12.0	12.17	7.5	75	2.0	2.5	104.1
P1230.120-080	12.0	12.5	12.8	12.0	12.17	7.5	80	2.0	2.5	104.1
P1230.120-085	12.0	12.5	12.8	12.0	12.17	7.5	85	2.0	2.5	104.1
P1230.120-090	12.0	12.5	12.8	12.0	12.17	7.5	90	2.0	2.5	104.1
P1230.120-095	12.0	12.5	12.8	12.0	12.17	7.5	95	2.0	2.5	104.1
P1230.120-100	12.0	12.5	12.8	12.0	12.17	7.5	100	2.0	2.5	104.1
P1230.120-120	12.0	12.5	12.8	12.0	12.17	7.5	120	2.0	2.5	104.1
P1230.120-130	12.0	12.5	12.8	12.0	12.17	7.5	130	2.0	2.5	104.1
P1230.120-140	12.0	12.5	12.8	12.0	12.17	7.5	140	2.0	2.5	104.1
P1230.120-150	12.0	12.5	12.8	12.0	12.17	7.5	150	2.0	2.5	104.1
P1230.120-160	12.0	12.5	12.8	12.0	12.17	7.5	160	2.0	2.5	104.1

SPRING PINS



P1231



Material
Stainless steel (A2).

Technical Notes
To DIN 1481 (ISO 8752). Slotted springs consist of a single coil of spring steel, with an open slot sufficiently wide enough to enable the pin to reduce in diameter, as it is driven into the hole. The ends of the

pin have a bevelled chamfer, they are designed for plain drilled holes, but a countersink makes assembly easier, especially for the ISO 8752 type. Recommended hole tolerance H12.
 l_1 tolerances:-
 1-10mm long - $\pm 0,25$
 12-50mm long - $\pm 0,50$

over 50mm long - $\pm 0,75$.
 Pins with a d_1 dimension of $>10\text{mm}$ may be delivered with one chamfer.

Tips
Where pins are to be installed in plastic it is recommended that they are de-oiled before use to avoid embrittlement of the plastic.

Order No.	d_1 nom.	d_1 min.	d_1 max.	Hole min.	Hole max.	d_2	l_1	l_2	w_1	Double shear kN
P1231.010-004	1.0	1.2	1.3	1.0	1.10	0.8	4	0.15	0.2	0.4
P1231.010-005	1.0	1.2	1.3	1.0	1.10	0.8	5	0.15	0.2	0.4
P1231.010-006	1.0	1.2	1.3	1.0	1.10	0.8	6	0.15	0.2	0.4
P1231.010-008	1.0	1.2	1.3	1.0	1.10	0.8	8	0.15	0.2	0.4
P1231.010-010	1.0	1.2	1.3	1.0	1.10	0.8	10	0.15	0.2	0.4
P1231.010-012	1.0	1.2	1.3	1.0	1.10	0.8	12	0.15	0.2	0.4
P1231.010-014	1.0	1.2	1.3	1.0	1.10	0.8	14	0.15	0.2	0.4
P1231.010-016	1.0	1.2	1.3	1.0	1.10	0.8	16	0.15	0.2	0.4
P1231.010-018	1.0	1.2	1.3	1.0	1.10	0.8	18	0.15	0.2	0.4
P1231.010-020	1.0	1.2	1.3	1.0	1.10	0.8	20	0.15	0.2	0.4
P1231.015-004	1.5	1.7	1.8	1.5	1.60	1.1	4	0.25	0.3	0.98
P1231.015-005	1.5	1.7	1.8	1.5	1.60	1.1	5	0.25	0.3	0.98
P1231.015-006	1.5	1.7	1.8	1.5	1.60	1.1	6	0.25	0.3	0.98
P1231.015-008	1.5	1.7	1.8	1.5	1.60	1.1	8	0.25	0.3	0.98
P1231.015-010	1.5	1.7	1.8	1.5	1.60	1.1	10	0.25	0.3	0.98
P1231.015-012	1.5	1.7	1.8	1.5	1.60	1.1	12	0.25	0.3	0.98
P1231.015-014	1.5	1.7	1.8	1.5	1.60	1.1	14	0.25	0.3	0.98
P1231.015-016	1.5	1.7	1.8	1.5	1.60	1.1	16	0.25	0.3	0.98
P1231.015-018	1.5	1.7	1.8	1.5	1.60	1.1	18	0.25	0.3	0.98
P1231.015-020	1.5	1.7	1.8	1.5	1.60	1.1	20	0.25	0.3	0.98
P1231.015-022	1.5	1.7	1.8	1.5	1.60	1.1	22	0.25	0.3	0.98
P1231.015-024	1.5	1.7	1.8	1.5	1.60	1.1	24	0.25	0.3	0.98
P1231.020-004	2.0	2.3	2.4	2.0	2.10	1.5	4	0.35	0.4	1.81
P1231.020-005	2.0	2.3	2.4	2.0	2.10	1.5	5	0.35	0.4	1.81
P1231.020-006	2.0	2.3	2.4	2.0	2.10	1.5	6	0.35	0.4	1.81
P1231.020-008	2.0	2.3	2.4	2.0	2.10	1.5	8	0.35	0.4	1.81
P1231.020-010	2.0	2.3	2.4	2.0	2.10	1.5	10	0.35	0.4	1.81
P1231.020-012	2.0	2.3	2.4	2.0	2.10	1.5	12	0.35	0.4	1.81
P1231.020-014	2.0	2.3	2.4	2.0	2.10	1.5	14	0.35	0.4	1.81



Stainless Slotted Spring Pins



Spring Pins

Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w ₁	Double shear kN
P1231.020-016	2.0	2.3	2.4	2.0	2.10	1.5	16	0.35	0.4	1.81
P1231.020-018	2.0	2.3	2.4	2.0	2.10	1.5	18	0.35	0.4	1.81
P1231.020-020	2.0	2.3	2.4	2.0	2.10	1.5	20	0.35	0.4	1.81
P1231.020-022	2.0	2.3	2.4	2.0	2.10	1.5	22	0.35	0.4	1.81
P1231.020-024	2.0	2.3	2.4	2.0	2.10	1.5	24	0.35	0.4	1.81
P1231.020-026	2.0	2.3	2.4	2.0	2.10	1.5	26	0.35	0.4	1.81
P1231.020-028	2.0	2.3	2.4	2.0	2.10	1.5	28	0.35	0.4	1.81
P1231.020-030	2.0	2.3	2.4	2.0	2.10	1.5	30	0.35	0.4	1.81
P1231.020-035	2.0	2.3	2.4	2.0	2.10	1.5	35	0.35	0.4	1.81
P1231.020-040	2.0	2.3	2.4	2.0	2.10	1.5	40	0.35	0.4	1.81
P1231.025-004	2.5	2.8	2.9	2.5	2.60	1.8	4	0.4	0.5	2.84
P1231.025-005	2.5	2.8	2.9	2.5	2.60	1.8	5	0.4	0.5	2.84
P1231.025-006	2.5	2.8	2.9	2.5	2.60	1.8	6	0.4	0.5	2.84
P1231.025-008	2.5	2.8	2.9	2.5	2.60	1.8	8	0.4	0.5	2.84
P1231.025-010	2.5	2.8	2.9	2.5	2.60	1.8	10	0.4	0.5	2.84
P1231.025-012	2.5	2.8	2.9	2.5	2.60	1.8	12	0.4	0.5	2.84
P1231.025-014	2.5	2.8	2.9	2.5	2.60	1.8	14	0.4	0.5	2.84
P1231.025-016	2.5	2.8	2.9	2.5	2.60	1.8	16	0.4	0.5	2.84
P1231.025-018	2.5	2.8	2.9	2.5	2.60	1.8	18	0.4	0.5	2.84
P1231.025-020	2.5	2.8	2.9	2.5	2.60	1.8	20	0.4	0.5	2.84
P1231.025-022	2.5	2.8	2.9	2.5	2.60	1.8	22	0.4	0.5	2.84
P1231.025-024	2.5	2.8	2.9	2.5	2.60	1.8	24	0.4	0.5	2.84
P1231.025-026	2.5	2.8	2.9	2.5	2.60	1.8	26	0.4	0.5	2.84
P1231.025-028	2.5	2.8	2.9	2.5	2.60	1.8	28	0.4	0.5	2.84
P1231.025-030	2.5	2.8	2.9	2.5	2.60	1.8	30	0.4	0.5	2.84
P1231.025-035	2.5	2.8	2.9	2.5	2.60	1.8	35	0.4	0.5	2.84
P1231.025-040	2.5	2.8	2.9	2.5	2.60	1.8	40	0.4	0.5	2.84
P1231.030-004	3.0	3.3	3.5	3.0	3.10	2.1	4	0.5	0.6	4.07
P1231.030-005	3.0	3.3	3.5	3.0	3.10	2.1	5	0.5	0.6	4.07
P1231.030-006	3.0	3.3	3.5	3.0	3.10	2.1	6	0.5	0.6	4.07
P1231.030-008	3.0	3.3	3.5	3.0	3.10	2.1	8	0.5	0.6	4.07
P1231.030-010	3.0	3.3	3.5	3.0	3.10	2.1	10	0.5	0.6	4.07
P1231.030-012	3.0	3.3	3.5	3.0	3.10	2.1	12	0.5	0.6	4.07
P1231.030-014	3.0	3.3	3.5	3.0	3.10	2.1	14	0.5	0.6	4.07
P1231.030-016	3.0	3.3	3.5	3.0	3.10	2.1	16	0.5	0.6	4.07
P1231.030-018	3.0	3.3	3.5	3.0	3.10	2.1	18	0.5	0.6	4.07
P1231.030-020	3.0	3.3	3.5	3.0	3.10	2.1	20	0.5	0.6	4.07
P1231.030-022	3.0	3.3	3.5	3.0	3.10	2.1	22	0.5	0.6	4.07
P1231.030-024	3.0	3.3	3.5	3.0	3.10	2.1	24	0.5	0.6	4.07
P1231.030-026	3.0	3.3	3.5	3.0	3.10	2.1	26	0.5	0.6	4.07
P1231.030-028	3.0	3.3	3.5	3.0	3.10	2.1	28	0.5	0.6	4.07
P1231.030-030	3.0	3.3	3.5	3.0	3.10	2.1	30	0.5	0.6	4.07
P1231.030-035	3.0	3.3	3.5	3.0	3.10	2.1	35	0.5	0.6	4.07
P1231.030-040	3.0	3.3	3.5	3.0	3.10	2.1	40	0.5	0.6	4.07
P1231.030-045	3.0	3.3	3.5	3.0	3.10	2.1	45	0.5	0.6	4.07
P1231.030-050	3.0	3.3	3.5	3.0	3.10	2.1	50	0.5	0.6	4.07
P1231.035-004	3.5	3.8	4.0	3.5	3.62	2.3	4	0.6	0.7	5.80
P1231.035-005	3.5	3.8	4.0	3.5	3.62	2.3	5	0.6	0.7	5.80
P1231.035-006	3.5	3.8	4.0	3.5	3.62	2.3	6	0.6	0.7	5.80
P1231.035-008	3.5	3.8	4.0	3.5	3.62	2.3	8	0.6	0.7	5.80
P1231.035-010	3.5	3.8	4.0	3.5	3.62	2.3	10	0.6	0.7	5.80
P1231.035-012	3.5	3.8	4.0	3.5	3.62	2.3	12	0.6	0.7	5.80
P1231.035-014	3.5	3.8	4.0	3.5	3.62	2.3	14	0.6	0.7	5.80
P1231.035-016	3.5	3.8	4.0	3.5	3.62	2.3	16	0.6	0.7	5.80
P1231.035-018	3.5	3.8	4.0	3.5	3.62	2.3	18	0.6	0.7	5.80
P1231.035-020	3.5	3.8	4.0	3.5	3.62	2.3	20	0.6	0.7	5.80
P1231.035-022	3.5	3.8	4.0	3.5	3.62	2.3	22	0.6	0.7	5.80
P1231.035-024	3.5	3.8	4.0	3.5	3.62	2.3	24	0.6	0.7	5.80
P1231.035-026	3.5	3.8	4.0	3.5	3.62	2.3	26	0.6	0.7	5.80
P1231.035-028	3.5	3.8	4.0	3.5	3.62	2.3	28	0.6	0.7	5.80
P1231.035-030	3.5	3.8	4.0	3.5	3.62	2.3	30	0.6	0.7	5.80
P1231.035-035	3.5	3.8	4.0	3.5	3.62	2.3	35	0.6	0.7	5.80
P1231.035-040	3.5	3.8	4.0	3.5	3.62	2.3	40	0.6	0.7	5.80
P1231.035-045	3.5	3.8	4.0	3.5	3.62	2.3	45	0.6	0.7	5.80
P1231.035-050	3.5	3.8	4.0	3.5	3.62	2.3	50	0.6	0.7	5.80
P1231.040-004	4.0	4.4	4.6	4.0	4.12	2.8	4	0.65	0.8	7.25
P1231.040-005	4.0	4.4	4.6	4.0	4.12	2.8	5	0.65	0.8	7.25
P1231.040-006	4.0	4.4	4.6	4.0	4.12	2.8	6	0.65	0.8	7.25

SPRING PINS



Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w ₁	Double shear kN
P1231.040-008	4.0	4.4	4.6	4.0	4.12	2.8	8	0.65	0.8	7.25
P1231.040-010	4.0	4.4	4.6	4.0	4.12	2.8	10	0.65	0.8	7.25
P1231.040-012	4.0	4.4	4.6	4.0	4.12	2.8	12	0.65	0.8	7.25
P1231.040-014	4.0	4.4	4.6	4.0	4.12	2.8	14	0.65	0.8	7.25
P1231.040-016	4.0	4.4	4.6	4.0	4.12	2.8	16	0.65	0.8	0.65
P1231.040-018	4.0	4.4	4.6	4.0	4.12	2.8	18	0.65	0.8	7.25
P1231.040-020	4.0	4.4	4.6	4.0	4.12	2.8	20	0.65	0.8	7.25
P1231.040-022	4.0	4.4	4.6	4.0	4.12	2.8	22	0.65	0.8	7.25
P1231.040-024	4.0	4.4	4.6	4.0	4.12	2.8	24	0.65	0.8	7.25
P1231.040-026	4.0	4.4	4.6	4.0	4.12	2.8	26	0.65	0.8	7.25
P1231.040-028	4.0	4.4	4.6	4.0	4.12	2.8	28	0.65	0.8	7.25
P1231.040-030	4.0	4.4	4.6	4.0	4.12	2.8	30	0.65	0.8	7.25
P1231.040-035	4.0	4.4	4.6	4.0	4.12	2.8	36	0.65	0.8	7.25
P1231.040-040	4.0	4.4	4.6	4.0	4.12	2.8	40	0.65	0.8	7.25
P1231.040-045	4.0	4.4	4.6	4.0	4.12	2.8	45	0.65	0.8	7.25
P1231.040-050	4.0	4.4	4.6	4.0	4.12	2.8	50	0.65	0.8	7.25
P1231.040-055	4.0	4.4	4.6	4.0	4.12	2.8	55	0.65	0.8	7.25
P1231.040-060	4.0	4.4	4.6	4.0	4.12	2.8	60	0.65	0.8	7.25
P1231.050-006	5.0	5.4	5.6	5.0	5.12	3.4	6	0.9	1.0	10.75
P1231.050-008	5.0	5.4	5.6	5.0	5.12	3.4	8	0.9	1.0	10.75
P1231.050-010	5.0	5.4	5.6	5.0	5.12	3.4	10	0.9	1.0	10.75
P1231.050-012	5.0	5.4	5.6	5.0	5.12	3.4	12	0.9	1.0	10.75
P1231.050-014	5.0	5.4	5.6	5.0	5.12	3.4	14	0.9	1.0	10.75
P1231.050-016	5.0	5.4	5.6	5.0	5.12	3.4	16	0.9	1.0	10.75
P1231.050-018	5.0	5.4	5.6	5.0	5.12	3.4	18	0.9	1.0	10.75
P1231.050-020	5.0	5.4	5.6	5.0	5.12	3.4	20	0.9	1.0	10.75
P1231.050-022	5.0	5.4	5.6	5.0	5.12	3.4	22	0.9	1.0	10.75
P1231.050-024	5.0	5.4	5.6	5.0	5.12	3.4	24	0.9	1.0	10.75
P1231.050-026	5.0	5.4	5.6	5.0	5.12	3.4	26	0.9	1.0	10.75
P1231.050-028	5.0	5.4	5.6	5.0	5.12	3.4	28	0.9	1.0	10.75
P1231.050-030	5.0	5.4	5.6	5.0	5.12	3.4	30	0.9	1.0	10.75
P1231.050-035	5.0	5.4	5.6	5.0	5.12	3.4	35	0.9	1.0	10.75
P1231.050-040	5.0	5.4	5.6	5.0	5.12	3.4	40	0.9	1.0	10.75
P1231.050-045	5.0	5.4	5.6	5.0	5.12	3.4	45	0.9	1.0	10.75
P1231.050-050	5.0	5.4	5.6	5.0	5.12	3.4	50	0.9	1.0	10.75
P1231.050-055	5.0	5.4	5.6	5.0	5.12	3.4	55	0.9	1.0	10.75
P1231.050-060	5.0	5.4	5.6	5.0	5.12	3.4	60	0.9	1.0	10.75
P1231.050-065	5.0	5.4	5.6	5.0	5.12	3.4	65	0.9	1.0	10.75
P1231.050-070	5.0	5.4	5.6	5.0	5.12	3.4	70	0.9	1.0	10.75
P1231.050-075	5.0	5.4	5.6	5.0	5.12	3.4	75	0.9	1.0	10.75
P1231.050-080	5.0	5.4	5.6	5.0	5.12	3.4	80	0.9	1.0	10.75
P1231.060-008	6.0	6.4	6.7	6.0	6.12	3.9	8	1.2	1.2	16.17
P1231.060-010	6.0	6.4	6.7	6.0	6.12	3.9	10	1.2	1.2	16.17
P1231.060-012	6.0	6.4	6.7	6.0	6.12	3.9	12	1.2	1.2	16.17
P1231.060-014	6.0	6.4	6.7	6.0	6.12	3.9	14	1.2	1.2	16.17
P1231.060-016	6.0	6.4	6.7	6.0	6.12	3.9	16	1.2	1.2	16.17
P1231.060-018	6.0	6.4	6.7	6.0	6.12	3.9	18	1.2	1.2	16.17
P1231.060-020	6.0	6.4	6.7	6.0	6.12	3.9	20	1.2	1.2	16.17
P1231.060-022	6.0	6.4	6.7	6.0	6.12	3.9	22	1.2	1.2	16.17
P1231.060-024	6.0	6.4	6.7	6.0	6.12	3.9	24	1.2	1.2	16.17
P1231.060-026	6.0	6.4	6.7	6.0	6.12	3.9	26	1.2	1.2	16.17
P1231.060-028	6.0	6.4	6.7	6.0	6.12	3.9	28	1.2	1.2	16.17
P1231.060-030	6.0	6.4	6.7	6.0	6.12	3.9	30	1.2	1.2	16.17
P1231.060-035	6.0	6.4	6.7	6.0	6.12	3.9	35	1.2	1.2	16.17
P1231.060-040	6.0	6.4	6.7	6.0	6.12	3.9	40	1.2	1.2	16.17
P1231.060-045	6.0	6.4	6.7	6.0	6.12	3.9	45	1.2	1.2	16.17
P1231.060-050	6.0	6.4	6.7	6.0	6.12	3.9	50	1.2	1.2	16.17
P1231.060-055	6.0	6.4	6.7	6.0	6.12	3.9	55	1.2	1.2	16.17
P1231.060-060	6.0	6.4	6.7	6.0	6.12	3.9	60	1.2	1.2	16.17
P1231.060-065	6.0	6.4	6.7	6.0	6.12	3.9	65	1.2	1.2	16.17
P1231.060-070	6.0	6.4	6.7	6.0	6.12	3.9	70	1.2	1.2	16.17
P1231.060-075	6.0	6.4	6.7	6.0	6.12	3.9	75	1.2	1.2	16.17
P1231.060-080	6.0	6.4	6.7	6.0	6.12	3.9	80	1.2	1.2	16.17
P1231.060-085	6.0	6.4	6.7	6.0	6.12	3.9	85	1.2	1.2	16.17
P1231.060-090	6.0	6.4	6.7	6.0	6.12	3.9	90	1.2	1.2	16.17
P1231.060-095	6.0	6.4	6.7	6.0	6.12	3.9	95	1.2	1.2	16.17
P1231.060-100	6.0	6.4	6.7	6.0	6.12	3.9	100	1.2	1.2	16.17
P1231.080-010	8.0	8.5	8.8	8.0	8.15	5.5	10	1.5	1.5	26.46



Stainless Slotted Spring Pins



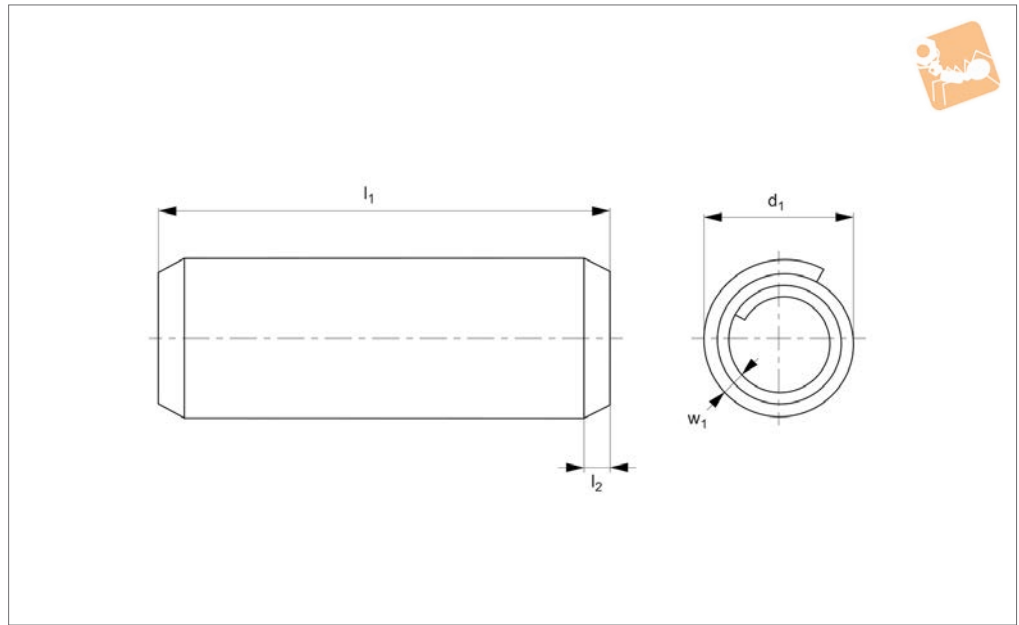
Spring Pins

Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	d ₂	l ₁	l ₂	w ₁	Double shear kN
P1231.080-012	8.0	8.5	8.8	8.0	8.15	5.5	12	1.5	1.5	26.46
P1231.080-014	8.0	8.5	8.8	8.0	8.15	5.5	14	1.5	1.5	26.46
P1231.080-016	8.0	8.5	8.8	8.0	8.15	5.5	16	1.5	1.5	26.46
P1231.080-018	8.0	8.5	8.8	8.0	8.15	5.5	18	1.5	1.5	26.46
P1231.080-020	8.0	8.5	8.8	8.0	8.15	5.5	20	1.5	1.5	26.46
P1231.080-022	8.0	8.5	8.8	8.0	8.15	5.5	22	1.5	1.5	26.46
P1231.080-024	8.0	8.5	8.8	8.0	8.15	5.5	24	1.5	1.5	26.46
P1231.080-026	8.0	8.5	8.8	8.0	8.15	5.5	26	1.5	1.5	26.46
P1231.080-028	8.0	8.5	8.8	8.0	8.15	5.5	28	1.5	1.5	26.46
P1231.080-030	8.0	8.5	8.8	8.0	8.15	5.5	30	1.5	1.5	26.46
P1231.080-035	8.0	8.5	8.8	8.0	8.15	5.5	35	1.5	1.5	26.46
P1231.080-040	8.0	8.5	8.8	8.0	8.15	5.5	40	1.5	1.5	26.46
P1231.080-045	8.0	8.5	8.8	8.0	8.15	5.5	45	1.5	1.5	26.46
P1231.080-050	8.0	8.5	8.8	8.0	8.15	5.5	50	1.5	1.5	26.46
P1231.080-055	8.0	8.5	8.8	8.0	8.15	5.5	55	1.5	1.5	26.46
P1231.080-060	8.0	8.5	8.8	8.0	8.15	5.5	60	1.5	1.5	26.46
P1231.080-065	8.0	8.5	8.8	8.0	8.15	5.5	65	1.5	1.5	26.46
P1231.080-070	8.0	8.5	8.8	8.0	8.15	5.5	70	1.5	1.5	26.46
P1231.080-075	8.0	8.5	8.8	8.0	8.15	5.5	75	1.5	1.5	26.46
P1231.080-080	8.0	8.5	8.8	8.0	8.15	5.5	80	1.5	1.5	26.46
P1231.080-085	8.0	8.5	8.8	8.0	8.15	5.5	85	1.5	1.5	26.46
P1231.080-090	8.0	8.5	8.8	8.0	8.15	5.5	90	1.5	1.5	26.46
P1231.080-095	8.0	8.5	8.8	8.0	8.15	5.5	95	1.5	1.5	26.46
P1231.080-100	8.0	8.5	8.8	8.0	8.15	5.5	100	1.5	1.5	26.46
P1231.080-120	8.0	8.5	8.8	8.0	8.15	5.5	120	1.5	1.5	26.46
P1231.100-010	10.0	10.5	10.8	10.0	10.15	6.5	10	2.0	2.0	42.14
P1231.100-012	10.0	10.5	10.8	10.0	10.15	6.5	12	2.0	2.0	42.14
P1231.100-014	10.0	10.5	10.8	10.0	10.15	6.5	14	2.0	2.0	42.14
P1231.100-016	10.0	10.5	10.8	10.0	10.15	6.5	16	2.0	2.0	42.14
P1231.100-018	10.0	10.5	10.8	10.0	10.15	6.5	18	2.0	2.0	42.14
P1231.100-020	10.0	10.5	10.8	10.0	10.15	6.5	20	2.0	2.0	42.14
P1231.100-022	10.0	10.5	10.8	10.0	10.15	6.5	22	2.0	2.0	42.14
P1231.100-024	10.0	10.5	10.8	10.0	10.15	6.5	24	2.0	2.0	42.14
P1231.100-026	10.0	10.5	10.8	10.0	10.15	6.5	26	2.0	2.0	42.14
P1231.100-028	10.0	10.5	10.8	10.0	10.15	6.5	28	2.0	2.0	42.14
P1231.100-030	10.0	10.5	10.8	10.0	10.15	6.5	30	2.0	2.0	42.14
P1231.100-035	10.0	10.5	10.8	10.0	10.15	6.5	35	2.0	2.0	42.14
P1231.100-040	10.0	10.5	10.8	10.0	10.15	6.5	40	2.0	2.0	42.14
P1231.100-045	10.0	10.5	10.8	10.0	10.15	6.5	45	2.0	2.0	42.14
P1231.100-050	10.0	10.5	10.8	10.0	10.15	6.5	50	2.0	2.0	42.14
P1231.100-055	10.0	10.5	10.8	10.0	10.15	6.5	55	2.0	2.0	42.14
P1231.100-060	10.0	10.5	10.8	10.0	10.15	6.5	60	2.0	2.0	42.14
P1231.100-065	10.0	10.5	10.8	10.0	10.15	6.5	65	2.0	2.0	42.14
P1231.100-070	10.0	10.5	10.8	10.0	10.15	6.5	70	2.0	2.0	42.14
P1231.100-075	10.0	10.5	10.8	10.0	10.15	6.5	75	2.0	2.0	42.14
P1231.100-080	10.0	10.5	10.8	10.0	10.15	6.5	80	2.0	2.0	42.14
P1231.100-085	10.0	10.5	10.8	10.0	10.15	6.5	85	2.0	2.0	42.14
P1231.100-090	10.0	10.5	10.8	10.0	10.15	6.5	90	2.0	2.0	42.14
P1231.100-095	10.0	10.5	10.8	10.0	10.15	6.5	95	2.0	2.0	42.14
P1231.100-100	10.0	10.5	10.8	10.0	10.15	6.5	100	2.0	2.0	42.14
P1231.100-120	10.0	10.5	10.8	10.0	10.15	6.5	120	2.0	2.0	42.14
P1231.100-130	10.0	10.5	10.8	10.0	10.15	6.5	130	2.0	2.0	42.14
P1231.100-140	10.0	10.5	10.8	10.0	10.15	6.5	140	2.0	2.0	42.14
P1231.100-150	10.0	10.5	10.8	10.0	10.15	6.5	150	2.0	2.0	42.14
P1231.100-160	10.0	10.5	10.8	10.0	10.15	6.5	160	2.0	2.0	42.14

SPRING PINS



P1232



Material

Carbon steel (CS70) hardened and tempered to HV420-545. Plain oiled finish.

Technical Notes

To DIN 7343 (ISO 8750). These units have an expanded diameter slightly larger, than the hole for which they are designed,

holding themselves in by radial tension on the hole.

Recommended hole tolerance H12.

l_1 tolerances:-

1-10mm long $\pm 0,25$

12-50mm long $\pm 0,50$

over 50mm long $\pm 0,75$.

Tips

Consists of 2.25 coils of steel and has swaged chamfers at each end.

Improves shock absorption, easy assembly. They are designed for plain drilled holes, but countersinking the holes makes insertion easier.

Order No.	d_1 nom.	d_1 min.	d_1 max.	Hole min.	Hole max.	l_1	l_2	w_1	Double shear kN
P1232.015-005	1.5	1.62	1.73	1.50	1.60	5	0.5	0.13	1.45
P1232.015-006	1.5	1.62	1.73	1.50	1.60	6	0.5	0.13	1.45
P1232.015-008	1.5	1.62	1.73	1.50	1.60	8	0.5	0.13	1.45
P1232.015-010	1.5	1.62	1.73	1.50	1.60	10	0.5	0.13	1.45
P1232.015-012	1.5	1.62	1.73	1.50	1.60	12	0.5	0.13	1.45
P1232.015-014	1.5	1.62	1.73	1.50	1.60	14	0.5	0.13	1.45
P1232.015-016	1.5	1.62	1.73	1.50	1.60	16	0.5	0.13	1.45
P1232.020-006	2.0	2.13	2.25	1.99	2.10	6	0.7	0.17	2.5
P1232.020-008	2.0	2.13	2.25	1.99	2.10	8	0.7	0.17	2.5
P1232.020-010	2.0	2.13	2.25	1.99	2.10	10	0.7	0.17	2.5
P1232.020-012	2.0	2.13	2.25	1.99	2.10	12	0.7	0.17	2.5
P1232.020-014	2.0	2.13	2.25	1.99	2.10	14	0.7	0.17	2.5
P1232.020-016	2.0	2.13	2.25	1.99	2.10	16	0.7	0.17	2.5
P1232.020-018	2.0	2.13	2.25	1.99	2.10	18	0.7	0.17	2.5
P1232.020-020	2.0	2.13	2.25	1.99	2.10	20	0.7	0.17	2.5
P1232.025-008	2.5	2.65	2.78	2.49	2.60	8	0.8	0.21	3.9
P1232.025-010	2.5	2.65	2.78	2.49	2.60	10	0.8	0.21	3.9
P1232.025-012	2.5	2.65	2.78	2.49	2.60	12	0.8	0.21	3.9
P1232.025-014	2.5	2.65	2.78	2.49	2.60	14	0.8	0.21	3.9
P1232.025-016	2.5	2.65	2.78	2.49	2.60	16	0.8	0.21	3.9
P1232.025-018	2.5	2.65	2.78	2.49	2.60	18	0.8	0.21	3.9
P1232.025-020	2.5	2.65	2.78	2.49	2.60	20	0.8	0.21	3.9
P1232.025-022	2.5	2.65	2.78	2.49	2.60	22	0.8	0.21	3.9
P1232.025-024	2.5	2.65	2.78	2.49	2.60	24	0.8	0.21	3.9
P1232.030-008	3.0	3.15	3.30	2.99	3.10	8	0.9	0.25	5.5
P1232.030-010	3.0	3.15	3.30	2.99	3.10	10	0.9	0.25	5.5
P1232.030-012	3.0	3.15	3.30	2.99	3.10	12	0.9	0.25	5.5
P1232.030-014	3.0	3.15	3.30	2.99	3.10	14	0.9	0.25	5.5
P1232.030-016	3.0	3.15	3.30	2.99	3.10	16	0.9	0.25	5.5
P1232.030-018	3.0	3.15	3.30	2.99	3.10	18	0.9	0.25	5.5

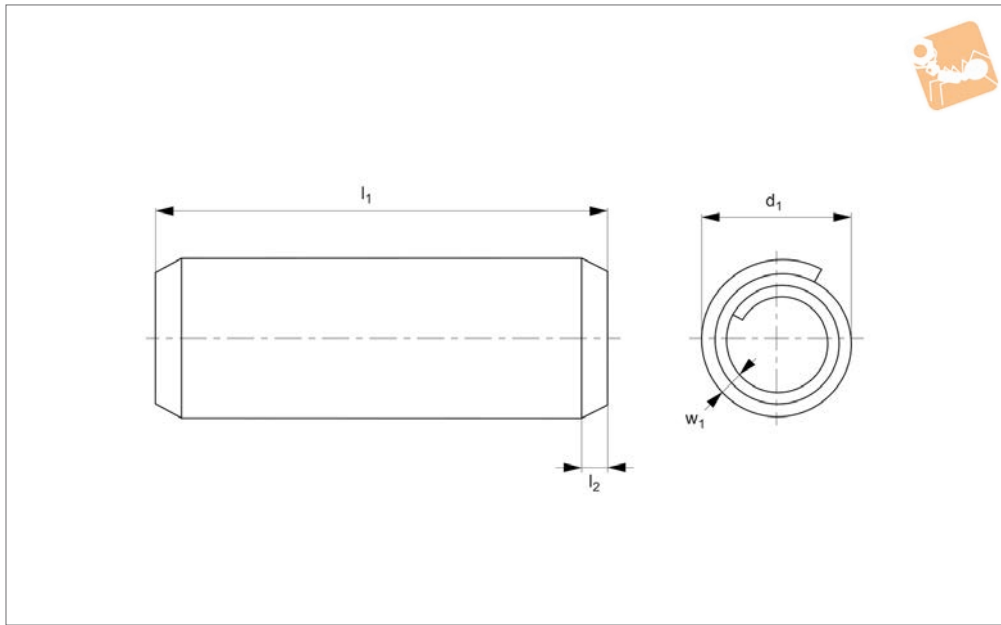


Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	l ₁	l ₂	w ₁	Double shear kN
P1232.030-020	3.0	3.15	3.30	2.99	3.10	20	0.9	0.25	5.5
P1232.030-022	3.0	3.15	3.30	2.99	3.10	22	0.9	0.25	5.5
P1232.030-024	3.0	3.15	3.30	2.99	3.10	24	0.9	0.25	5.5
P1232.030-026	3.0	3.15	3.30	2.99	3.10	26	0.9	0.25	5.5
P1232.030-028	3.0	3.15	3.30	2.99	3.10	28	0.9	0.25	5.5
P1232.030-030	3.0	3.15	3.30	2.99	3.10	30	0.9	0.25	5.5
P1232.035-012	3.5	3.67	3.84	3.48	3.50	12	1.2	0.29	7.5
P1232.035-014	3.5	3.67	3.84	3.48	3.50	14	1.2	0.29	7.5
P1232.035-016	3.5	3.67	3.84	3.48	3.50	16	1.2	0.29	7.5
P1232.035-018	3.5	3.67	3.84	3.48	3.50	18	1.2	0.29	7.5
P1232.035-020	3.5	3.67	3.84	3.48	3.50	20	1.2	0.29	7.5
P1232.035-022	3.5	3.67	3.84	3.48	3.50	22	1.2	0.29	7.5
P1232.035-024	3.5	3.67	3.84	3.48	3.50	24	1.2	0.29	7.5
P1232.035-026	3.5	3.67	3.84	3.48	3.50	26	1.2	0.29	7.5
P1232.035-028	3.5	3.67	3.84	3.48	3.50	28	1.2	0.29	7.5
P1232.035-030	3.5	3.67	3.84	3.48	3.50	30	1.2	0.29	7.5
P1232.035-035	3.5	3.67	3.84	3.48	3.50	35	1.2	0.29	7.5
P1232.045-012	4.0	4.20	4.40	3.98	4.00	12	1.1	0.33	9.6
P1232.045-014	4.0	4.20	4.40	3.98	4.00	14	1.1	0.33	9.6
P1232.045-016	4.0	4.20	4.40	3.98	4.00	16	1.1	0.33	9.6
P1232.045-018	4.0	4.20	4.40	3.98	4.00	18	1.1	0.33	9.6
P1232.045-020	4.0	4.20	4.40	3.98	4.00	20	1.1	0.33	9.6
P1232.045-022	4.0	4.20	4.40	3.98	4.00	22	1.1	0.33	9.6
P1232.045-024	4.0	4.20	4.40	3.98	4.00	24	1.1	0.33	9.6
P1232.045-026	4.0	4.20	4.40	3.98	4.00	26	1.1	0.33	9.6
P1232.045-028	4.0	4.20	4.40	3.98	4.00	28	1.1	0.33	9.6
P1232.045-030	4.0	4.20	4.40	3.98	4.00	30	1.1	0.33	9.6
P1232.045-035	4.0	4.20	4.40	3.98	4.00	35	1.1	0.33	9.6
P1232.045-040	4.0	4.20	4.40	3.98	4.00	40	1.1	0.33	9.6
P1232.050-014	5.0	5.25	5.50	4.95	5.00	14	1.3	0.42	15.0
P1232.050-016	5.0	5.25	5.50	4.95	5.00	16	1.3	0.42	15.0
P1232.050-018	5.0	5.25	5.50	4.95	5.00	18	1.3	0.42	15.0
P1232.050-020	5.0	5.25	5.50	4.95	5.00	20	1.3	0.42	15.0
P1232.050-022	5.0	5.25	5.50	4.95	5.00	22	1.3	0.42	15.0
P1232.050-024	5.0	5.25	5.50	4.95	5.00	24	1.3	0.42	15.0
P1232.050-026	5.0	5.25	5.50	4.95	5.00	26	1.3	0.42	15.0
P1232.050-028	5.0	5.25	5.50	4.95	5.00	28	1.3	0.42	15.0
P1232.050-030	5.0	5.25	5.50	4.95	5.00	30	1.3	0.42	15.0
P1232.050-035	5.0	5.25	5.50	4.95	5.00	35	1.3	0.42	15.0
P1232.050-040	5.0	5.25	5.50	4.95	5.00	40	1.3	0.42	15.0
P1232.050-045	5.0	5.25	5.50	4.95	5.00	45	1.3	0.42	15.0
P1232.060-016	6.0	6.25	5.60	5.95	6.00	16	1.5	0.5	22.0
P1232.060-018	6.0	6.25	5.60	5.95	6.00	18	1.5	0.5	22.0
P1232.060-020	6.0	6.25	5.60	5.95	6.00	20	1.5	0.5	22.0
P1232.060-022	6.0	6.25	5.60	5.95	6.00	22	1.5	0.5	22.0
P1232.060-024	6.0	6.25	5.60	5.95	6.00	24	1.5	0.5	22.0
P1232.060-026	6.0	6.25	5.60	5.95	6.00	26	1.5	0.5	22.0
P1232.060-028	6.0	6.25	5.60	5.95	6.00	28	1.5	0.5	22.0
P1232.060-030	6.0	6.25	5.60	5.95	6.00	30	1.5	0.5	22.0
P1232.060-035	6.0	6.25	5.60	5.95	6.00	35	1.5	0.5	22.0
P1232.060-040	6.0	6.25	5.60	5.95	6.00	40	1.5	0.5	22.0
P1232.060-045	6.0	6.25	5.60	5.95	6.00	45	1.5	0.5	22.0
P1232.060-050	6.0	6.25	5.60	5.95	6.00	50	1.5	0.5	22.0
P1232.080-020	8.0	8.30	8.60	7.93	8.00	20	2.0	0.67	39.0
P1232.080-022	8.0	8.30	8.60	7.93	8.00	22	2.0	0.67	39.0
P1232.080-024	8.0	8.30	8.60	7.93	8.00	24	2.0	0.67	39.0
P1232.080-026	8.0	8.30	8.60	7.93	8.00	26	2.0	0.67	39.0
P1232.080-028	8.0	8.30	8.60	7.93	8.00	28	2.0	0.67	39.0
P1232.080-030	8.0	8.30	8.60	7.93	8.00	30	2.0	0.67	39.0
P1232.080-035	8.0	8.30	8.60	7.93	8.00	35	2.0	0.67	39.0
P1232.080-040	8.0	8.30	8.60	7.93	8.00	40	2.0	0.67	39.0
P1232.080-045	8.0	8.30	8.60	7.93	8.00	45	2.0	0.67	39.0
P1232.080-050	8.0	8.30	8.60	7.93	8.00	50	2.0	0.67	39.0
P1232.080-055	8.0	8.30	8.60	7.93	8.00	55	2.0	0.67	39.0
P1232.080-060	8.0	8.30	8.60	7.93	8.00	60	2.0	0.67	39.0
P1232.080-065	8.0	8.30	8.60	7.93	8.00	65	2.0	0.67	39.0
P1232.080-070	8.0	8.30	8.60	7.93	8.00	70	2.0	0.67	39.0
P1232.080-075	8.0	8.30	8.60	7.93	8.00	75	2.0	0.67	39.0

SPRING PINS



Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	l ₁	l ₂	w ₁	Double shear kN
P1232.100-024	10.0	10.35	10.80	9.93	10.00	24	2.5	0.84	62.0
P1232.100-026	10.0	10.35	10.80	9.93	10.00	26	2.5	0.84	62.0
P1232.100-028	10.0	10.35	10.80	9.93	10.00	28	2.5	0.84	62.0
P1232.100-030	10.0	10.35	10.80	9.93	10.00	30	2.5	0.84	62.0
P1232.100-035	10.0	10.35	10.80	9.93	10.00	35	2.5	0.84	62.0
P1232.100-040	10.0	10.35	10.80	9.93	10.00	40	2.5	0.84	62.0
P1232.100-045	10.0	10.35	10.80	9.93	10.00	45	2.5	0.84	62.0
P1232.100-050	10.0	10.35	10.80	9.93	10.00	50	2.5	0.84	62.0
P1232.100-055	10.0	10.35	10.80	9.93	10.00	55	2.5	0.84	62.0
P1232.100-060	10.0	10.35	10.80	9.93	10.00	60	2.5	0.84	62.0
P1232.100-065	10.0	10.35	10.80	9.93	10.00	65	2.5	0.84	62.0
P1232.100-070	10.0	10.35	10.80	9.93	10.00	70	2.5	0.84	62.0
P1232.100-075	10.0	10.35	10.80	9.93	10.00	75	2.5	0.84	62.0
P1232.100-080	10.0	10.35	10.80	9.93	10.00	80	2.5	0.84	62.0
P1232.100-085	10.0	10.35	10.80	9.93	10.00	85	2.5	0.84	62.0
P1232.120-028	12.0	12.40	12.85	11.90	12.00	28	3.0	1.0	89.0
P1232.120-030	12.0	12.40	12.85	11.90	12.00	30	3.0	1.0	89.0
P1232.120-035	12.0	12.40	12.85	11.90	12.00	35	3.0	1.0	89.0
P1232.120-040	12.0	12.40	12.85	11.90	12.00	40	3.0	1.0	89.0
P1232.120-045	12.0	12.40	12.85	11.90	12.00	45	3.0	1.0	89.0
P1232.120-050	12.0	12.40	12.85	11.90	12.00	50	3.0	1.0	89.0
P1232.120-055	12.0	12.40	12.85	11.90	12.00	55	3.0	1.0	89.0
P1232.120-060	12.0	12.40	12.85	11.90	12.00	60	3.0	1.0	89.0
P1232.120-065	12.0	12.40	12.85	11.90	12.00	65	3.0	1.0	89.0
P1232.120-070	12.0	12.40	12.85	11.90	12.00	70	3.0	1.0	89.0
P1232.120-075	12.0	12.40	12.85	11.90	12.00	75	3.0	1.0	89.0
P1232.120-080	12.0	12.40	12.85	11.90	12.00	80	3.0	1.0	89.0
P1232.120-085	12.0	12.40	12.85	11.90	12.00	85	3.0	1.0	89.0
P1232.120-090	12.0	12.40	12.85	11.90	12.00	90	3.0	1.0	89.0
P1232.120-095	12.0	12.40	12.85	11.90	12.00	95	3.0	1.0	89.0
P1232.120-100	12.0	12.40	12.85	11.90	12.00	100	3.0	1.0	89.0



P1234

SPRING PINS

Material

Stainless steel (A2).

Technical Notes

To DIN 7343 (ISO 8750). These units have an expanded diameter slightly larger, than the hole for which they are designed, holding themselves in by radial tension on

the hole.

l_1 tolerances:-
 1-10mm long $\pm 0,25$
 12-50mm long $\pm 0,50$
 over 50mm long $\pm 0,75$.

Tips

Consists of 2.25 coils of steel and have

swaged chamfers at each end.

Improves shock absorption, easy assembly. They are designed for plain drilled holes, but countersinking the holes makes insertion easier.

Order No.	d_1 nom.	d_1 min.	d_1 max.	Hole min.	Hole max.	l_1	l_2	w_1	Double shear kN
P1234.015-005	1.5	1.62	1.73	1.50	1.60	5	0.5	0.13	1.05
P1234.015-006	1.5	1.62	1.73	1.50	1.60	6	0.5	0.13	1.05
P1234.015-008	1.5	1.62	1.73	1.50	1.60	8	0.5	0.13	1.05
P1234.015-010	1.5	1.62	1.73	1.50	1.60	10	0.5	0.13	1.05
P1234.015-012	1.5	1.62	1.73	1.50	1.60	12	0.5	0.13	1.05
P1234.015-014	1.5	1.62	1.73	1.50	1.60	14	0.5	0.13	1.05
P1234.015-016	1.5	1.62	1.73	1.50	1.60	16	0.5	0.13	1.05
P1234.020-006	2.0	2.13	2.25	1.99	2.10	6	0.7	0.17	1.9
P1234.020-008	2.0	2.13	2.25	1.99	2.10	8	0.7	0.17	1.9
P1234.020-010	2.0	2.13	2.25	1.99	2.10	10	0.7	0.17	1.9
P1234.020-012	2.0	2.13	2.25	1.99	2.10	12	0.7	0.17	1.9
P1234.020-014	2.0	2.13	2.25	1.99	2.10	14	0.7	0.17	1.9
P1234.020-016	2.0	2.13	2.25	1.99	2.10	16	0.7	0.17	1.9
P1234.020-018	2.0	2.13	2.25	1.99	2.10	18	0.7	0.17	1.9
P1234.020-020	2.0	2.13	2.25	1.99	2.10	20	0.7	0.17	1.9
P1234.025-008	2.5	2.65	2.78	2.49	2.60	8	0.8	0.21	2.9
P1234.025-010	2.5	2.65	2.78	2.49	2.60	10	0.8	0.21	2.9
P1234.025-012	2.5	2.65	2.78	2.49	2.60	12	0.8	0.21	2.9
P1234.025-014	2.5	2.65	2.78	2.49	2.60	14	0.8	0.21	2.9
P1234.025-016	2.5	2.65	2.78	2.49	2.60	16	0.8	0.21	2.9
P1234.025-018	2.5	2.65	2.78	2.49	2.60	18	0.8	0.21	2.9
P1234.025-020	2.5	2.65	2.78	2.49	2.60	20	0.8	0.21	2.9
P1234.025-022	2.5	2.65	2.78	2.49	2.60	22	0.8	0.21	2.9
P1234.025-024	2.5	2.65	2.78	2.49	2.60	24	0.8	0.21	2.9
P1234.030-008	3.0	3.15	3.30	2.99	3.10	8	0.9	0.25	4.2
P1234.030-010	3.0	3.15	3.30	2.99	3.10	10	0.9	0.25	4.2
P1234.030-012	3.0	3.15	3.30	2.99	3.10	12	0.9	0.25	4.2
P1234.030-014	3.0	3.15	3.30	2.99	3.10	14	0.9	0.25	4.2
P1234.030-016	3.0	3.15	3.30	2.99	3.10	16	0.9	0.25	4.2
P1234.030-018	3.0	3.15	3.30	2.99	3.10	18	0.9	0.25	4.2



Order No.	d ₁ nom.	d ₁ min.	d ₁ max.	Hole min.	Hole max.	l ₁	l ₂	w ₁	Double shear kN
P1234.030-020	3.0	3.15	3.30	2.99	3.10	20	0.9	0.25	4.2
P1234.030-022	3.0	3.15	3.30	2.99	3.10	22	0.9	0.25	4.2
P1234.030-024	3.0	3.15	3.30	2.99	3.10	24	0.9	0.25	4.2
P1234.030-026	3.0	3.15	3.30	2.99	3.10	26	0.9	0.25	4.2
P1234.030-028	3.0	3.15	3.30	2.99	3.10	28	0.9	0.25	4.2
P1234.030-030	3.0	3.15	3.30	2.99	3.10	30	0.9	0.25	4.2
P1234.040-012	4.0	4.20	4.40	3.98	4.12	12	1.1	0.33	7.6
P1234.040-014	4.0	4.20	4.40	3.98	4.12	14	1.1	0.33	7.6
P1234.040-016	4.0	4.20	4.40	3.98	4.12	16	1.1	0.33	7.6
P1234.040-018	4.0	4.20	4.40	3.98	4.12	18	1.1	0.33	7.6
P1234.040-020	4.0	4.20	4.40	3.98	4.12	20	1.1	0.33	7.6
P1234.040-022	4.0	4.20	4.40	3.98	4.12	22	1.1	0.33	7.6
P1234.040-024	4.0	4.20	4.40	3.98	4.12	24	1.1	0.33	7.6
P1234.040-026	4.0	4.20	4.40	3.98	4.12	26	1.1	0.33	7.6
P1234.040-028	4.0	4.20	4.40	3.98	4.12	28	1.1	0.33	7.6
P1234.040-030	4.0	4.20	4.40	3.98	4.12	30	1.1	0.33	7.6
P1234.040-035	4.0	4.20	4.40	3.98	4.12	35	1.1	0.33	7.6
P1234.040-040	4.0	4.20	4.40	3.98	4.12	40	1.1	0.33	7.6
P1234.050-014	5.0	5.25	5.50	4.95	5.12	14	1.3	0.42	11.5
P1234.050-016	5.0	5.25	5.50	4.95	5.12	16	1.3	0.42	11.5
P1234.050-018	5.0	5.25	5.50	4.95	5.12	18	1.3	0.42	11.5
P1234.050-020	5.0	5.25	5.50	4.95	5.12	20	1.3	0.42	11.5
P1234.050-022	5.0	5.25	5.50	4.95	5.12	22	1.3	0.42	11.5
P1234.050-024	5.0	5.25	5.50	4.95	5.12	24	1.3	0.42	11.5
P1234.050-026	5.0	5.25	5.50	4.95	5.12	26	1.3	0.42	11.5
P1234.050-028	5.0	5.25	5.50	4.95	5.12	28	1.3	0.42	11.5
P1234.050-030	5.0	5.25	5.50	4.95	5.12	30	1.3	0.42	11.5
P1234.050-035	5.0	5.25	5.50	4.95	5.12	35	1.3	0.42	11.5
P1234.050-040	5.0	5.25	5.50	4.95	5.12	40	1.3	0.42	11.5
P1234.050-045	5.0	5.25	5.50	4.95	5.12	45	1.3	0.42	11.5
P1234.060-016	6.0	6.25	6.60	5.95	6.13	16	1.5	0.5	16.8
P1234.060-018	6.0	6.25	6.60	5.95	6.13	18	1.5	0.5	16.8
P1234.060-020	6.0	6.25	6.60	5.95	6.13	20	1.5	0.5	16.8
P1234.060-022	6.0	6.25	6.60	5.95	6.13	22	1.5	0.5	16.8
P1234.060-024	6.0	6.25	6.60	5.95	6.13	24	1.5	0.5	16.8
P1234.060-026	6.0	6.25	6.60	5.95	6.13	26	1.5	0.5	16.8
P1234.060-028	6.0	6.25	6.60	5.95	6.13	28	1.5	0.5	16.8
P1234.060-030	6.0	6.25	6.60	5.95	6.13	30	1.5	0.5	16.8
P1234.060-035	6.0	6.25	6.60	5.95	6.13	35	1.5	0.5	16.8
P1234.060-040	6.0	6.25	6.60	5.95	6.13	40	1.5	0.5	16.8
P1234.060-045	6.0	6.25	6.60	5.95	6.13	45	1.5	0.5	16.8
P1234.060-050	6.0	6.25	6.60	5.95	6.13	50	1.5	0.5	16.8
P1234.080-020	8.0	8.30	8.60	7.93	8.17	20	2	0.67	30.0
P1234.080-022	8.0	8.30	8.60	7.93	8.17	22	2	0.67	30.0
P1234.080-024	8.0	8.30	8.60	7.93	8.17	24	2	0.67	30.0
P1234.080-026	8.0	8.30	8.60	7.93	8.17	26	2	0.67	30.0
P1234.080-028	8.0	8.30	8.60	7.93	8.17	28	2	0.67	30.0
P1234.080-030	8.0	8.30	8.60	7.93	8.17	30	2	0.67	30.0
P1234.080-035	8.0	8.30	8.60	7.93	8.17	35	2	0.67	30.0
P1234.080-040	8.0	8.30	8.60	7.93	8.17	40	2	0.67	30.0
P1234.080-045	8.0	8.30	8.60	7.93	8.17	45	2	0.67	30.0
P1234.080-050	8.0	8.30	8.60	7.93	8.17	50	2	0.67	30.0
P1234.080-055	8.0	8.30	8.60	7.93	8.17	55	2	0.67	30.0
P1234.080-060	8.0	8.30	8.60	7.93	8.17	60	2	0.67	30.0
P1234.080-065	8.0	8.30	8.60	7.93	8.17	65	2	0.67	30.0
P1234.080-070	8.0	8.30	8.60	7.93	8.17	70	2	0.67	30.0
P1234.080-075	8.0	8.30	8.60	7.93	8.17	75	2	0.67	30.0