

INTERNATIONAL STANDARD

ISO
11415

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1997-12-15

Tools for pressing — Die sets

Outillage de presse — Blocs à colonnes

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ISO 11415:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11415 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 8, *Tools for pressing and moulding*.

Annex A of this International Standard is for information only.

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Tools for pressing — Die sets

1 Scope

This International Standard lays down the main dimensions and designation of die sets.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6753-1:1994, *Tools for pressing and moulding — Machined plates — Part 1: Machined plates for press tools, jigs and fixtures.*

ISO 9182-2:1992, *Tools for pressing — Guide pillars — Part 2: Type A, straight pillars.*

ISO 9182-3:1992, *Tools for pressing — Guide pillars — Part 3: Type B, end locking pillars.*

ISO 9182-4:1992, *Tools for pressing — Guide pillars — Part 4: Type C, pillars with taper lead and bush.*

ISO 9182-5:1992, *Tools for pressing — Guide pillars — Part 5: Type D, end-locking pillars with flange.*

ISO 9448-2:1991, *Tools for pressing — Guide bushes — Part 2: Form A, gliding bushes, plain, type 1.*

ISO 9448-3:1991, *Tools for pressing — Guide bushes — Part 3: Form B, ball cage bushes, plain, type 1.*

ISO 9448-4:1991, *Tools for pressing — Guide bushes — Part 4: Form C, gliding bushes, headed, type 1.*

ISO 9448-5:1991, *Tools for pressing — Guide bushes — Part 5: Form D, ball cage bushes, headed, type 1.*

ISO 9448-6:1991, *Tools for pressing — Guide bushes — Part 6: Form E, gliding bushes, flanged, type 1.*

ISO 9448-7:1991, *Tools for pressing — Guide bushes — Part 7: Form F, ball cage bushes, flanged, type 1.*

ISO 9448-11:1992, *Tools for pressing — Guide bushes — Part 11: Form F, ball cage bushes, flanged, type 2.*

3 Composition

A die set consists of:

- machined plates in accordance with ISO 6753-1;
- guide pillars in accordance with ISO 9182, parts 2 to 5;
- guide bushes in accordance with ISO 9448, parts 2 to 7 and part 11.

See figure 1.

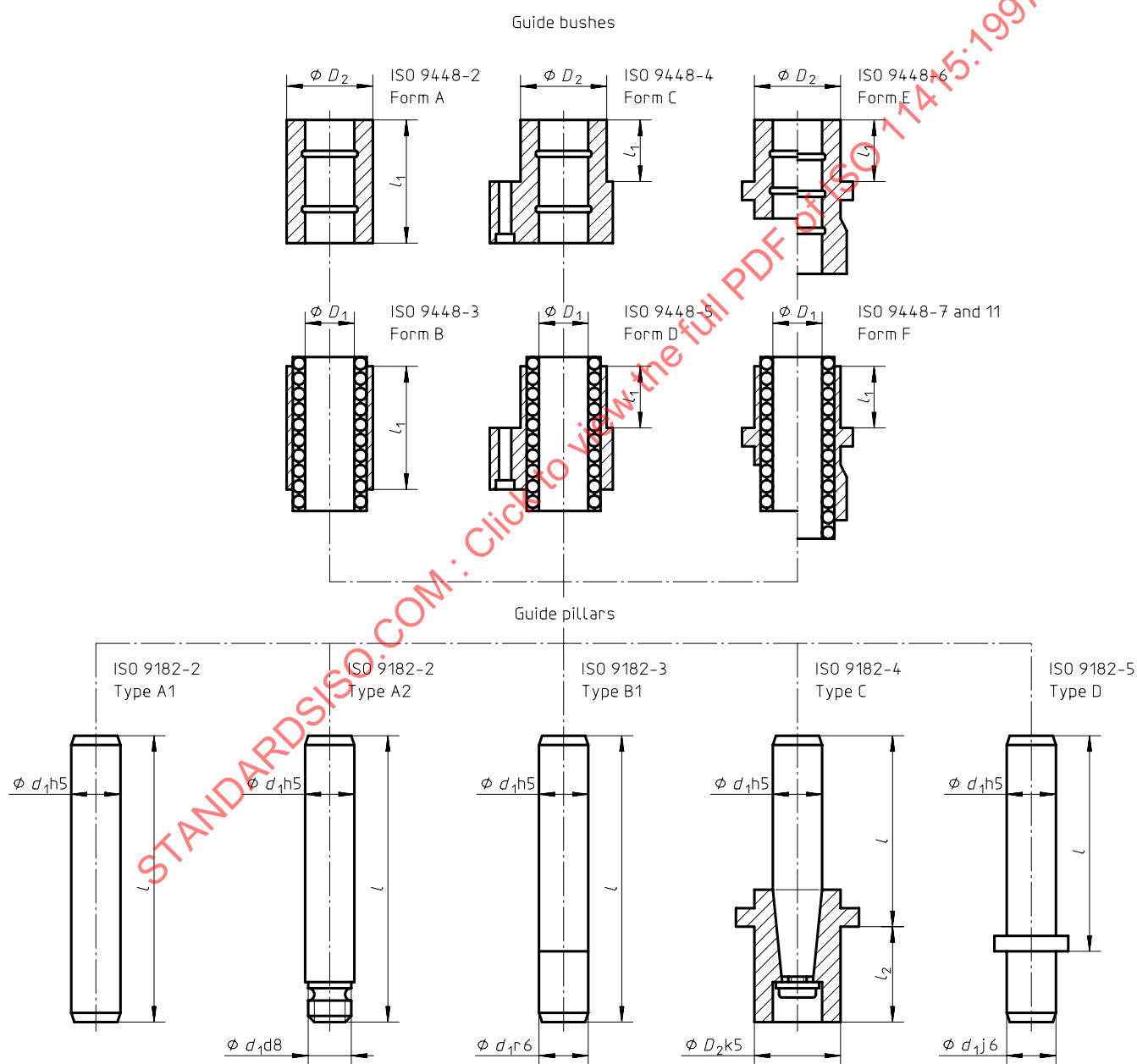


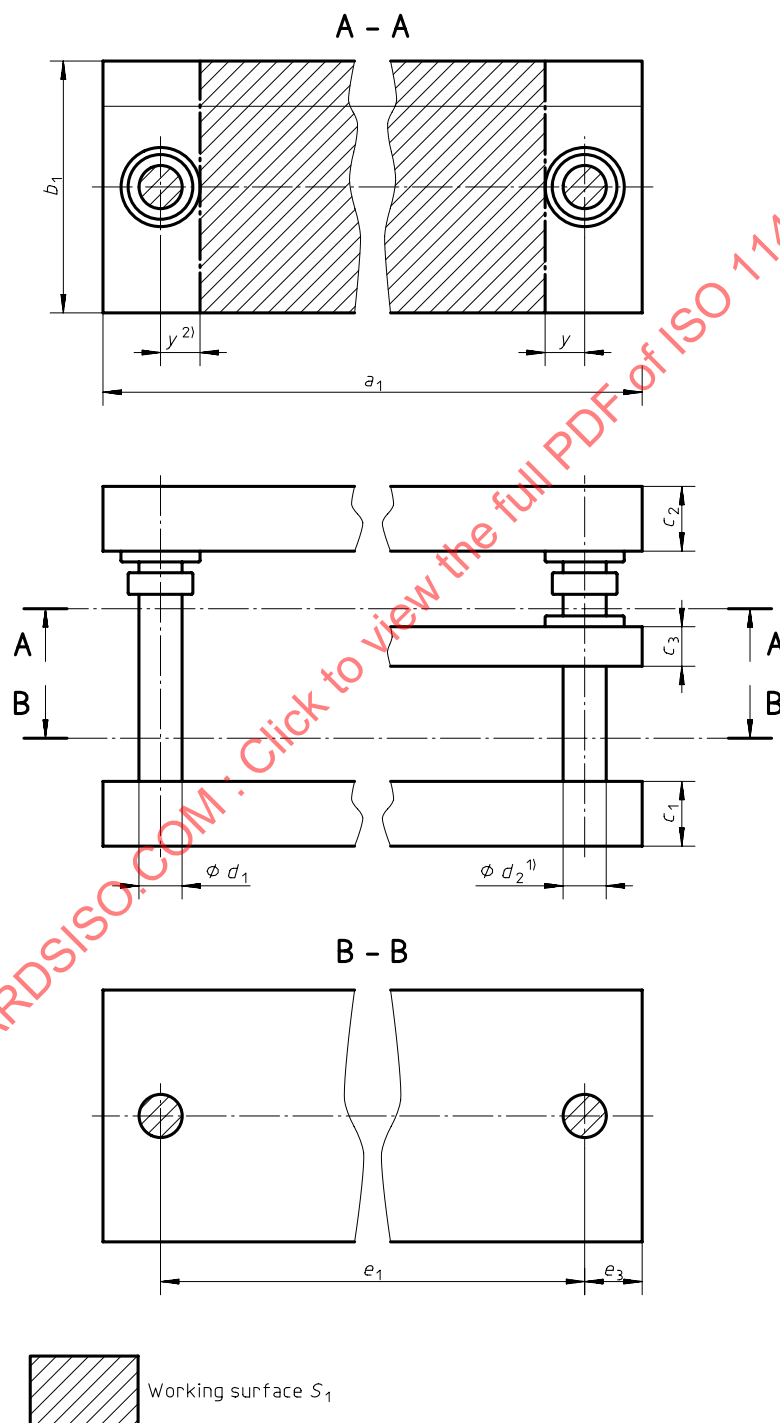
Figure 1

4 Dimensions

4.1 Die set with 2 centre pillars

Form A₁: without punch guide plate (see figure 2 and tables 1 and 2).

Form A₂: with punch guide plate (see figure 2 and tables 1 and 2).



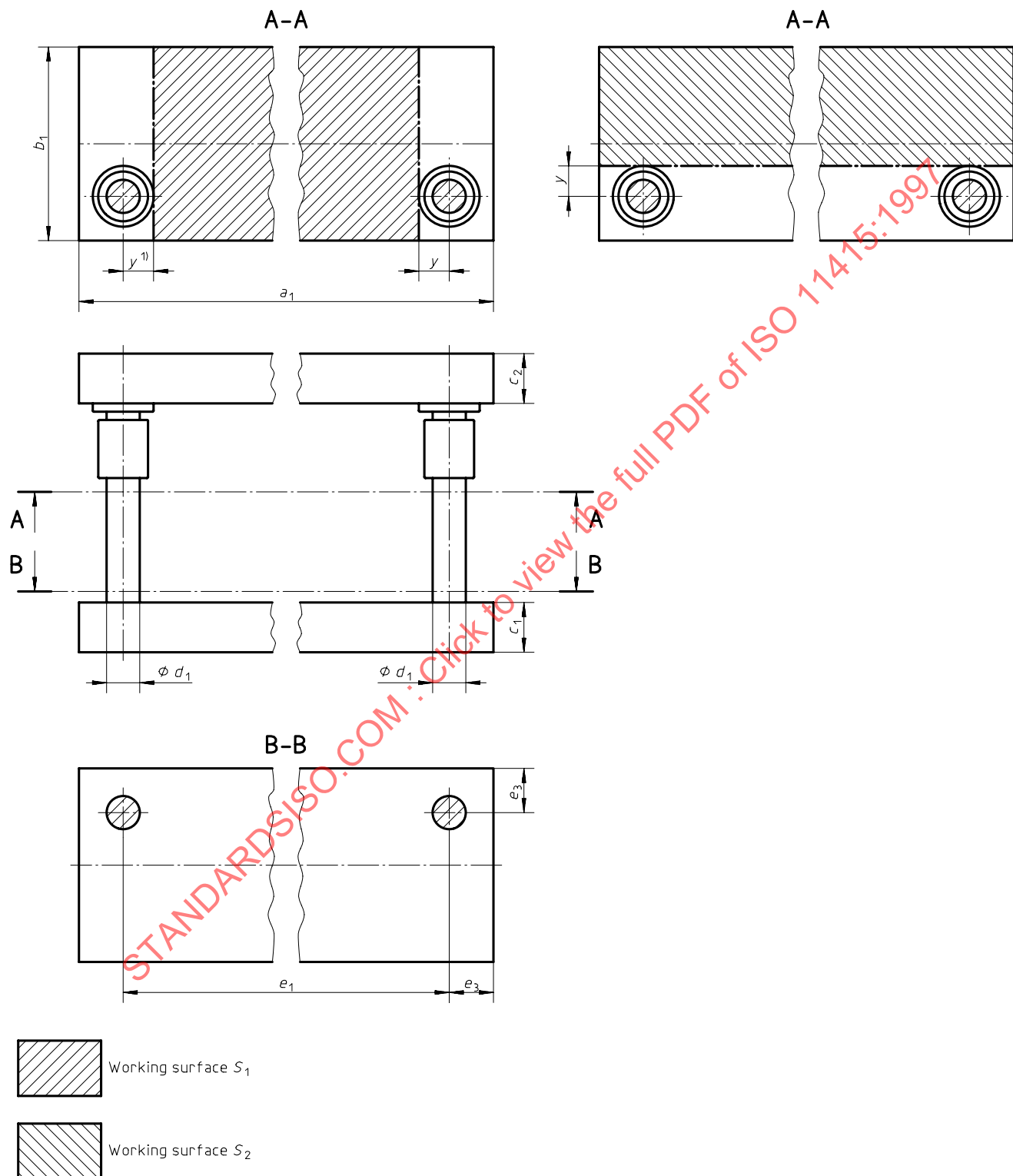
1) See 6.2.

2) See annex A.

Figure 2

4.2 Die set with 2 rear pillars

Form B₁: without punch guide plate (see figure 3 and tables 1 and 2).



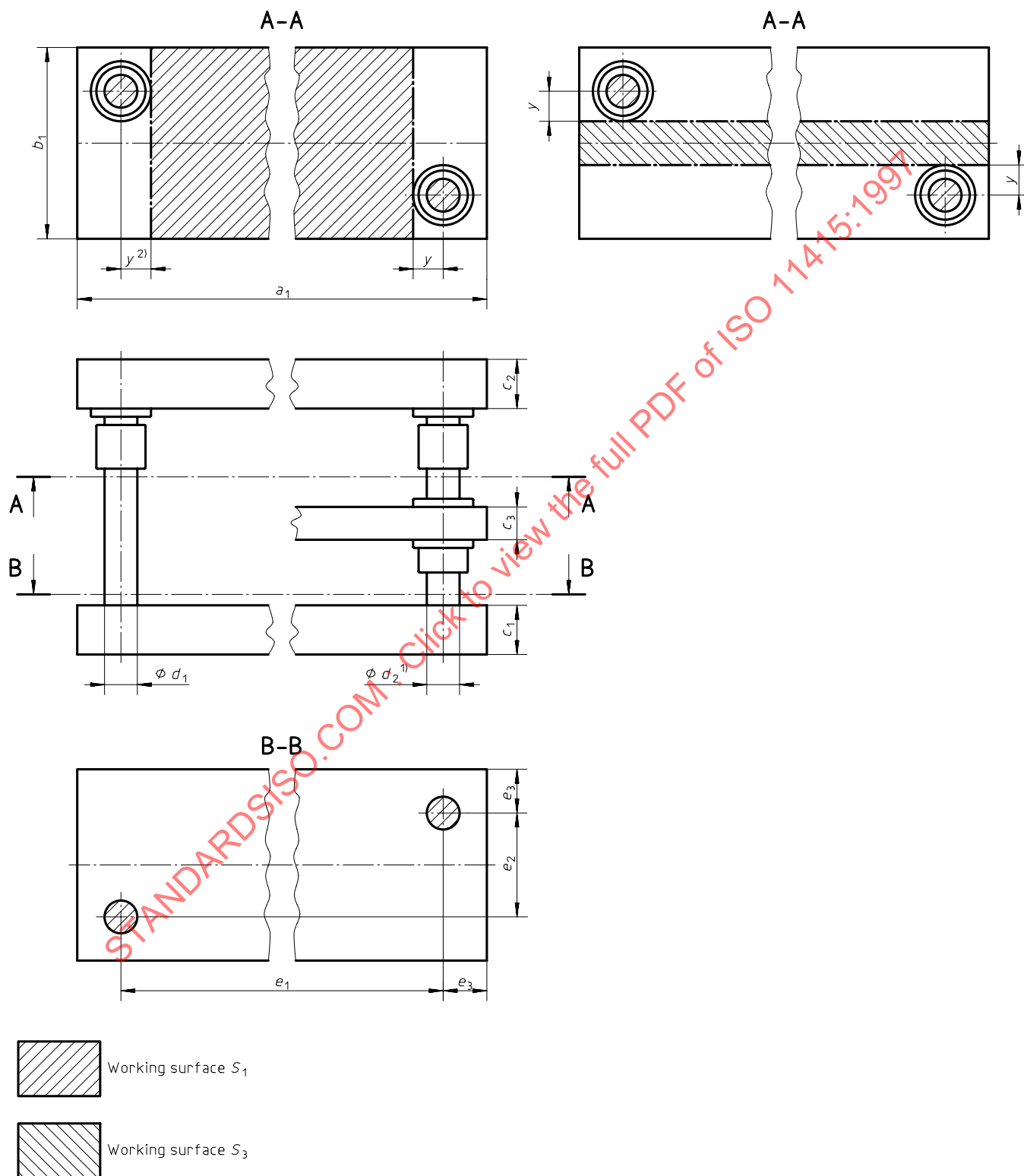
1) See annex A.

Figure 3

4.3 Die set with two diagonal pillars

Form C₁: without punch guide plate (see figure 4 and tables 1 and 2).

Form C₂: with punch guide plate (see figure 4 and tables 1 and 2).



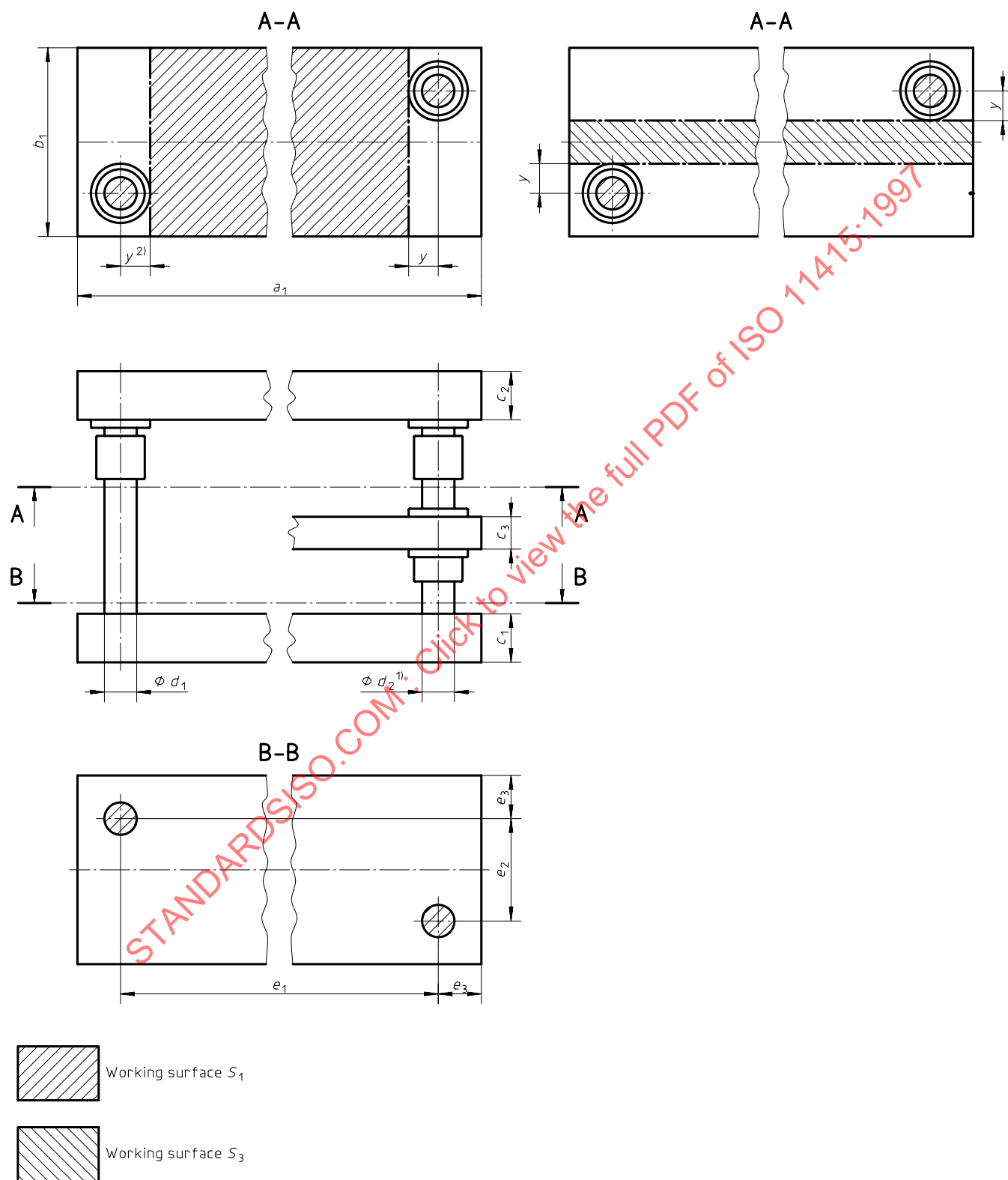
1) See 6.2.

2) See annex A.

Figure 4

Form C₃: without punch guide plate (see figure 5 and tables 1 and 2).

Form C₄: with punch guide plate (see figure 5 and tables 1 and 2).



1) See 6.2.

2) See annex A.

Figure 5

Table 1 — Dimensions of forms A₁, A₂, B₁, C₁, C₂, C₃ and C₄ die sets with guide bushes in accordance with ISO 9448-2 to ISO 9448-7

Dimensions in millimetres

$a_1 \times b_1$	c_1		c_2		c_2		d_1	e_1	e_2	e_3	S_1	S_2	S_3
160 × 80	32		32		25	32	20	100	-	30	60 × 80	-	-
160 × 100									-		60 × 100	160 × 50	-
160 × 125									-		60 × 125	160 × 75	-
160 × 160									100		60 × 160	160 × 110	160 × 60
200 × 100	32	40	32	40	25	32	25	120	-	40	72 × 100	-	-
200 × 125									-		72 × 125	200 × 61	-
200 × 160									-		72 × 160	200 × 96	-
200 × 200									120		72 × 200	200 × 136	200 × 72
250 × 125	32	40	32	40	25	32	25	170	-	40	122 × 125	250 × 61	-
250 × 160									-		122 × 160	250 × 96	-
250 × 200									120		122 × 200	250 × 136	250 × 72
250 × 250									170		122 × 250	250 × 186	250 × 122
315 × 160	40	50	40	50	32	40	32	225	-	45	169 × 160	315 × 87	-
315 × 200									110		169 × 200	315 × 127	315 × 54
315 × 250									160		169 × 250	315 × 177	315 × 104
315 × 315									225		169 × 315	315 × 242	315 × 169
400 × 200	40	50	40	50	32	40	32	310	110	45	254 × 200	400 × 127	400 × 54
400 × 250									160		254 × 250	400 × 177	400 × 104
400 × 315									225		254 × 315	400 × 242	400 × 169
400 × 400									310		254 × 400	400 × 327	400 × 254
500 × 250	40	50	40	50	32	40	40	400	150	50	334 × 250	500 × 167	500 × 84
500 × 315									215		334 × 315	500 × 232	500 × 149
500 × 400									300		334 × 400	500 × 317	500 × 234
500 × 500									400		334 × 500	500 × 417	500 × 334
630 × 315	50	63	50	63	32	40	50	510	195	60	430 × 315	630 × 215	630 × 115
630 × 400									280		430 × 400	630 × 300	630 × 200
630 × 500									380		430 × 500	630 × 400	630 × 300
630 × 630									510		430 × 630	630 × 530	630 × 430
710 × 400	50	63	50	63	32	40	50	590	280	60	510 × 400	710 × 300	710 × 200
710 × 500									380		510 × 500	710 × 400	710 × 300
710 × 630									510		510 × 630	710 × 530	710 × 430
800 × 400	50	63	50	63	32	40	50	680	280	60	600 × 400	800 × 300	800 × 200
800 × 500									380		600 × 500	800 × 400	800 × 300
800 × 630									510		600 × 630	800 × 530	800 × 430

Table 2 — Dimensions of forms A₁, A₂, B₁, C₁, C₂, C₃ and C₄ die sets with guide bushes in accordance with ISO 9448-11

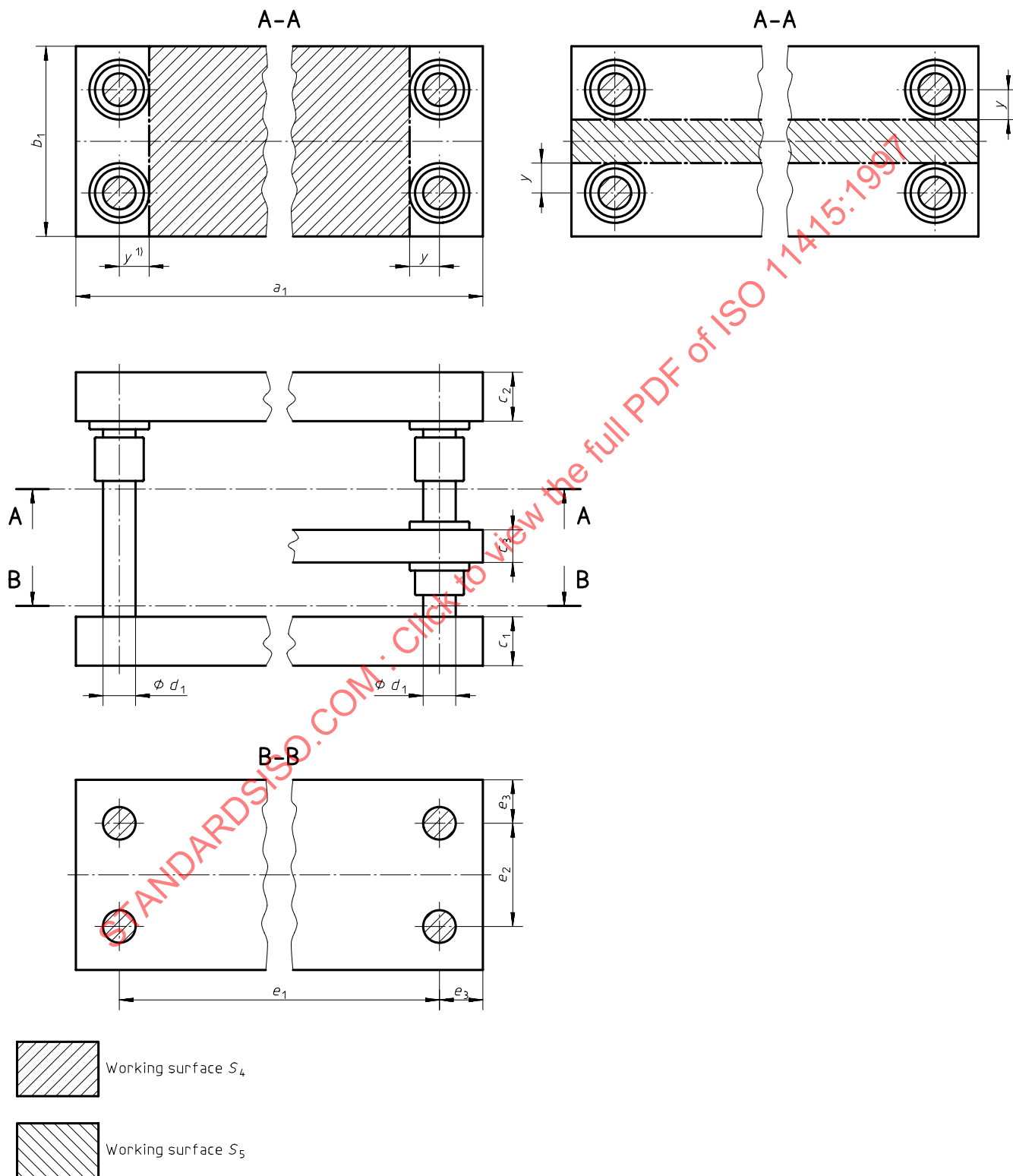
Dimensions in millimetres

$a_1 \times b_1$	c_1		c_2		c_3		d_1	e_1	e_2	e_3	S_1	S_2	S_3
200 × 100	32	40	32	40	25	32	25	120	-	40	64 × 100	-	-
200 × 125									-		64 × 125	200 × 57	-
200 × 160									-		64 × 160	200 × 92	-
200 × 200									120		64 × 200	200 × 132	200 × 64
250 × 125	32	40	32	40	25	32	25	170	-	40	114 × 125	250 × 57	-
250 × 160									-		114 × 160	250 × 92	-
250 × 200									120		114 × 200	250 × 132	250 × 64
250 × 250									170		114 × 250	250 × 182	250 × 114
315 × 160	40	50	40	50	32	40	32	225	-	45	162 × 160	315 × 83,5	-
315 × 200									-		162 × 200	315 × 123,5	-
315 × 250									160		162 × 250	315 × 173,5	315 × 97
315 × 315									225		162 × 315	315 × 238,5	315 × 162
400 × 200	40	50	40	50	32	40	32	310	110	45	247 × 200	400 × 123,5	-
400 × 250									160		247 × 250	400 × 173,5	400 × 97
400 × 315									225		247 × 315	400 × 238,5	400 × 162
400 × 400									310		247 × 400	400 × 323,5	400 × 247
500 × 250	40	50	40	50	32	40	40	400	150	50	329 × 250	500 × 164,5	500 × 79
500 × 315									215		329 × 315	500 × 229,5	500 × 144
500 × 400									300		329 × 400	500 × 314,5	500 × 229
500 × 500									400		329 × 500	500 × 414,5	500 × 329
630 × 315	50	63	50	63	32	40	50	510	195	60	420 × 315	630 × 210	630 × 105
630 × 400									280		420 × 400	630 × 295	630 × 190
630 × 500									380		420 × 500	630 × 395	630 × 290
630 × 630									510		420 × 630	630 × 525	630 × 420
710 × 400	50	63	50	63	32	40	50	590	280	60	500 × 400	710 × 295	710 × 190
710 × 500									380		500 × 500	710 × 395	710 × 290
710 × 630									510		500 × 630	710 × 525	710 × 420
800 × 400									280		590 × 400	800 × 295	800 × 190
800 × 500	50	63	50	63	32	40	50	680	380	60	590 × 500	800 × 395	800 × 290
800 × 630									510		590 × 630	800 × 525	800 × 420

4.4 Die sets with four pillars

Form D₁: without punch guide plate (see figure 6 and tables 3 and 4).

Form D₂: with punch guide plate (see figure 6 and tables 3 and 4).



1) See annex A.

Figure 6

Table 3 — Dimensions of forms D₁ and D₂ die sets with guide bushes in accordance with ISO 9448-2 to ISO 9448-7

Dimensions in millimetres													
$a_1 \times b_1$	c_1		c_2		c_3			d_1	e_1	e_2	e_3	S_4	S_5
160×80	32		32		25	32	16	100	-	30	64×80	-	
160×100									-		64×100	-	
160×125									-		64×125	-	
160×160									100		64×160	160×64	
200×100	32	40	32	40	25	32	20	140	-	30	100×100	-	
200×125									-		100×125	-	
200×160									100		100×160	200×60	
200×200									140		100×200	200×100	
250×125	32	40	32	40	25	32	20	190	-	30	150×125	-	
250×160									100		150×160	250×60	
250×200									140		150×200	250×100	
250×250									190		150×250	250×150	
315×160	40	50	40	50	32	40	25	235	-	40	187×160	-	
315×200									120		187×200	315×72	
315×250									170		187×250	315×122	
315×315									235		187×315	315×187	
400×200	40	50	40	50	32	40	25	320	120	40	272×200	400×72	
400×250									170		272×250	400×122	
400×315									235		272×315	400×187	
400×400									320		272×400	400×272	
500×250	40	50	40	50	32	40	32	410	160	45	354×250	500×104	
500×315									225		354×315	500×169	
500×400									310		354×400	500×254	
500×500									410		354×500	500×354	
630×315	50	63	50	63	32	40	50	40	530	215	50	464×315	630×149
630×400										300		464×400	630×234
630×500										400		464×500	630×334
630×630										530		464×630	630×464
710×400	50	63	50	63	32	40	50	40	610	300	50	544×400	710×234
710×500										400		544×500	710×334
710×630										530		544×630	710×464
800×400										300		634×400	800×234
800×500	50	63	50	63	32	40	50	40	700	400	50	634×500	800×334
800×630										530		634×630	800×464

Table 4 — Dimensions of forms D₁ and D₂ die sets with guide bushes in accordance with ISO 9448-11

Dimensions in millimetres													
$a_1 \times b_1$	c_1		c_2		c_3			d_1	e_1	e_2	e_3	S_4	S_5
315×160	40	50	40	50	32	40	25	235	-	40	179×160	-	
315×200									120		179×200	315×64	
315×250									170		179×250	315×114	
315×315									235		179×315	315×179	
400×200	40	50	40	50	32	40	25	320	120	40	264×200	400×64	
400×250									170		264×250	400×114	
400×315									235		264×315	400×179	
400×400									320		264×400	400×264	
500×250	40	50	40	50	32	40	32	410	160	45	347×250	500×97	
500×315									225		347×315	500×162	
500×400									310		347×400	500×247	
500×500									410		347×500	500×347	
630×315	50	63	50	63	32	40	50	40	530	215	50	459×315	630×144
630×400										300		459×400	630×229
630×500										400		459×500	630×329
630×630										530		459×630	630×459
710×400	50	63	50	63	32	40	50	40	610	300	50	539×400	710×229
710×500										400		539×500	710×329
710×630										530		539×630	710×459
800×400										300		629×400	800×229
800×500	50	63	50	63	32	40	50	40	700	400	50	629×500	800×329
800×630										530		629×630	800×459