

DISA

Instrukcja

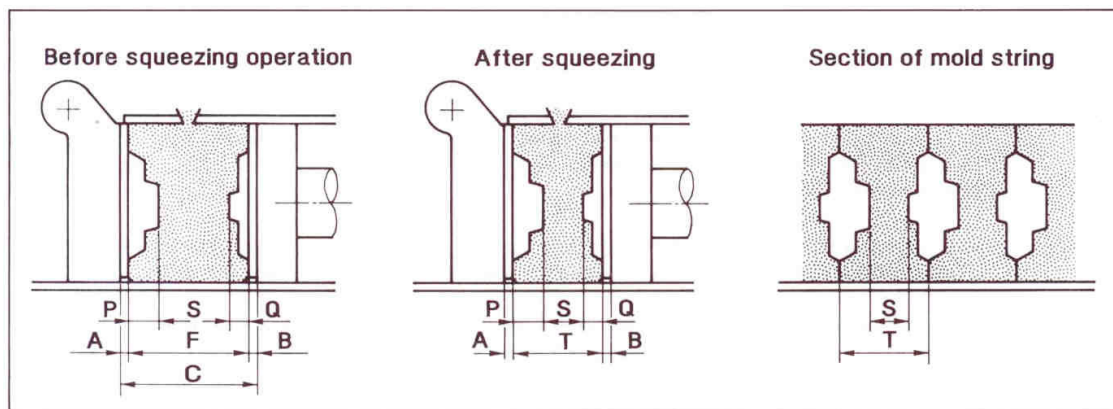


Fig. 2.20 Basic dimensions of mold before and after squeezing.

Rys. Współczynnik ściśliwości

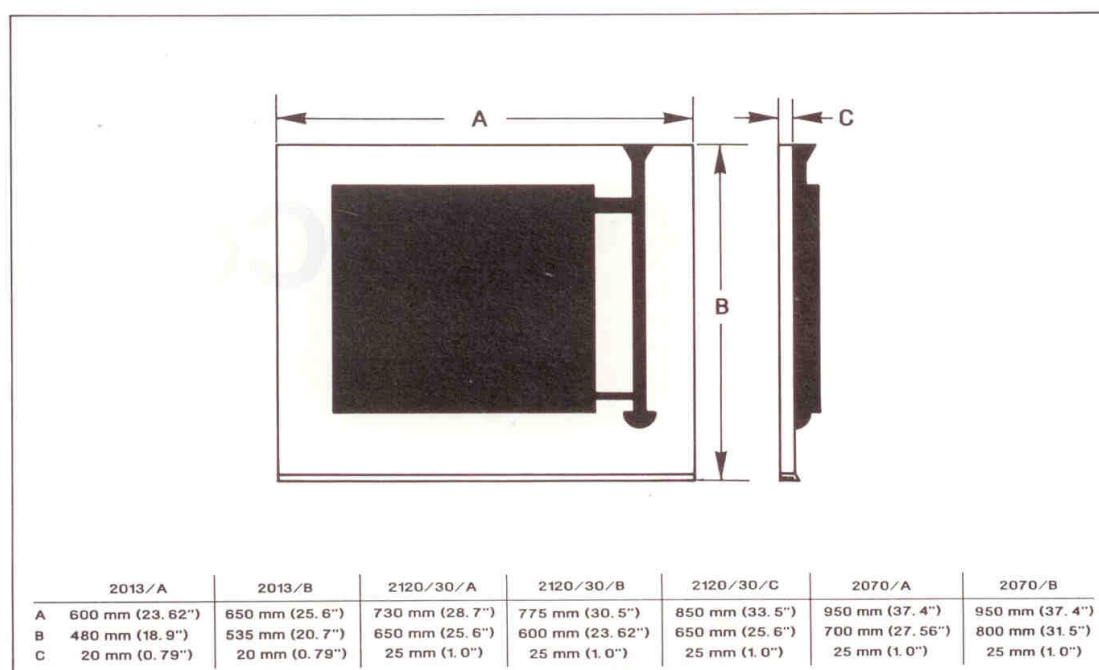


Fig. 2.01 Standard pattern plate. Overall dimensions for different DISAMATIC molding machines.

Rys. 1 Standardowa płyta modelowa. Wymiary gabarytowe dla różnych maszyn formierskich DISAMATIC

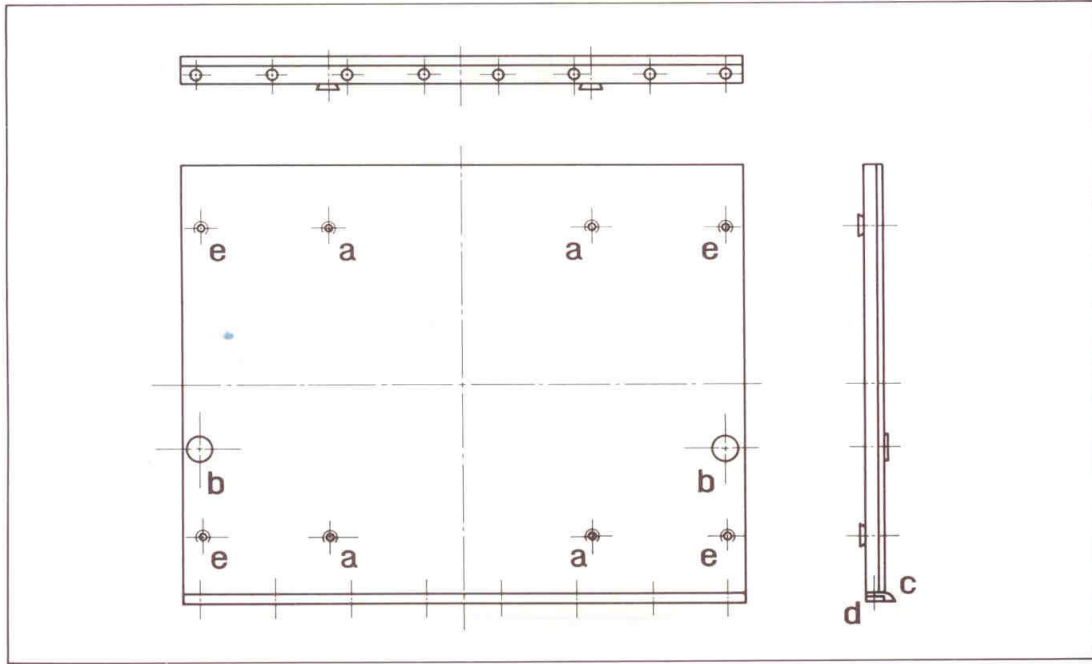


Fig. 2.02 2013 DMM. STANDARD PATTERN PLATES (Assembly sketches)

Rys. 2 2013 DMM

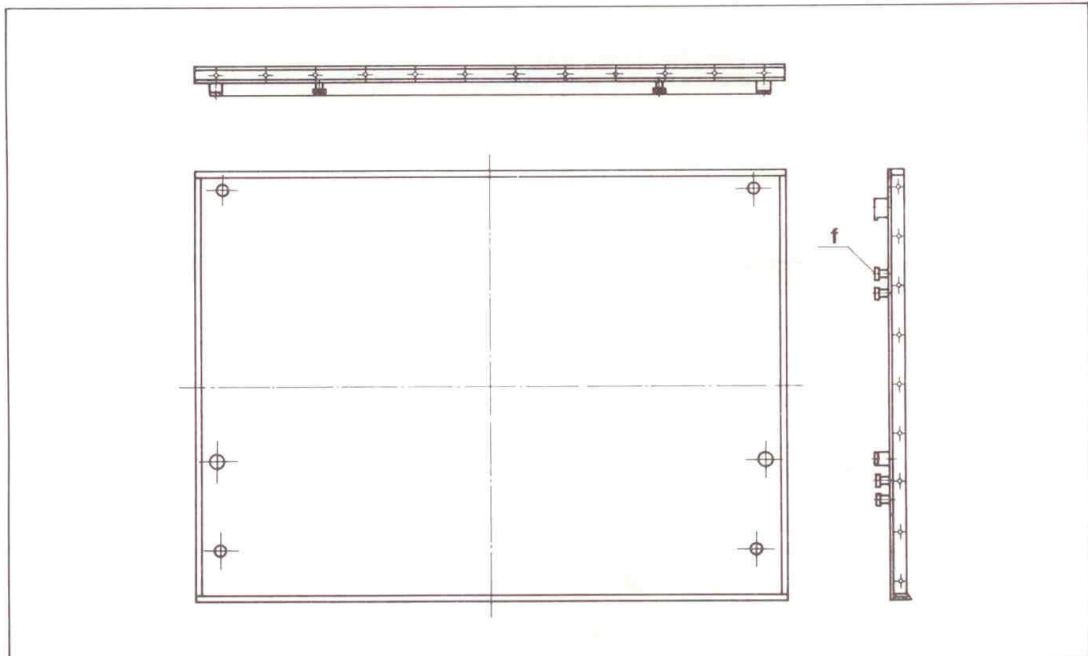


Fig. 2.04 2070 DMM.

Rys. 3 2070 DMM

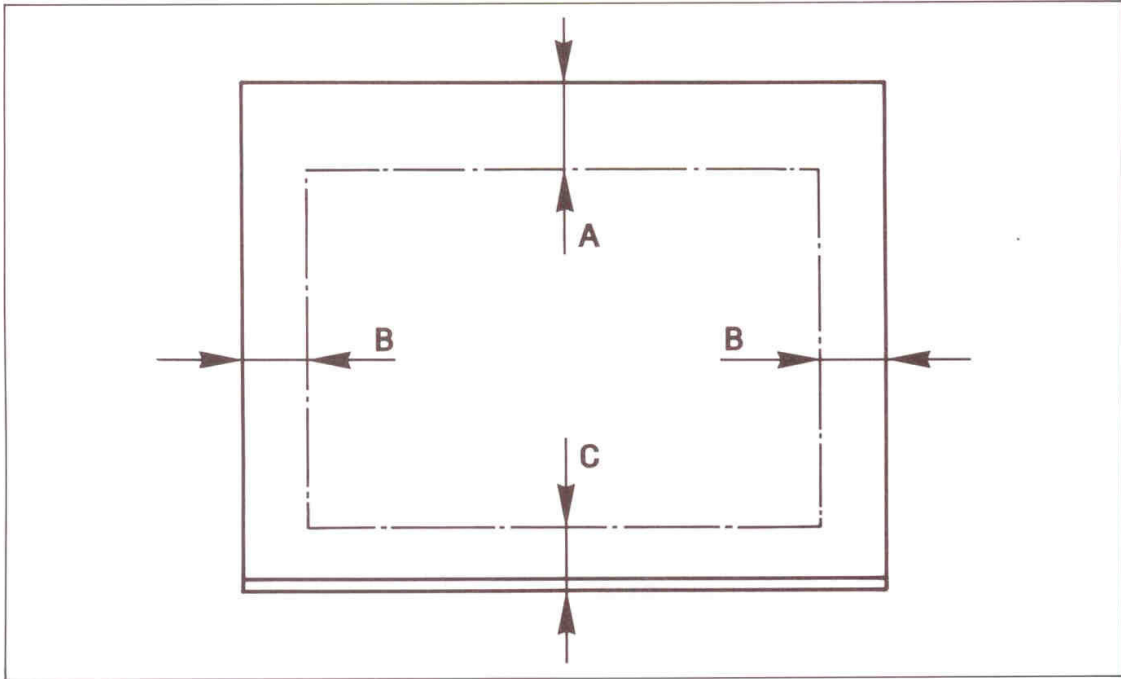
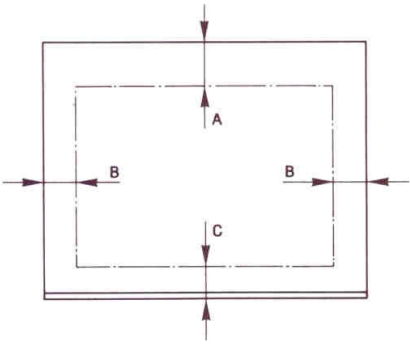


Fig. 2.15 Utilization of surface area.

Rys. 4 Wykorzystanie obszaru powierzchniowego



CASTING WALL THICKNESS		MODUL OF SOLIDIFICATION		TOTAL PATTERN HEIGHT (without pattern plates)		TOP EDGE "A"		SIDE EDGES "B"		BOTTOM EDGE "C"	
mm	in.	cm	in.	mm	in.	mm	in.	mm	in.	mm	in.
0-10	0-0.4	0-0.5	0-0.2	0-30	0-1.2	70	2.8	40	1.6	40	1.6
				30-60	1.2-2.4			40-60	1.6-2.4	40-60	1.6-2.4
				60-100	2.4-3.9			60-80	2.4-3.2	60-80	2.4-3.2
				100-200	3.9-7.9			80-100	3.2-3.9	80-100	3.2-3.9
				200-300	7.9-11.8			100-120	3.9-4.7	100-120	3.9-4.7
				300-400	11.8-15.8			120-140	4.7-5.5	120-140	4.7-5.5
10-15	0.4-0.6	0.50-0.75	0.2-0.3	0-100	0-3.9	70	2.8	50-90	2.0-3.5	50-90	2.0-3.5
				100-200	3.9-7.9			90-110	3.5-4.3	90-110	3.5-4.3
				200-300	7.9-11.8			110-130	4.3-5.1	110-130	4.3-5.1
				300-400	11.8-15.8			130-150	5.1-5.9	130-150	5.1-5.9
15-20	0.6-0.8	0.75-1.0	0.3-0.4	0-100	0-3.9	80	3.2	60-100	2.4-3.9	60-100	2.4-3.9
				100-200	3.9-7.9			100-120	3.9-4.7	100-120	3.9-4.7
				200-300	7.9-11.8			120-140	4.7-5.5	120-140	4.7-5.5
				300-400	11.8-15.8			140-160	5.5-6.3	140-160	5.5-6.3
20-25	0.8-1.0	1.00-1.25	0.4-0.5	0-100	0-3.9	90	3.5	70-110	2.8-4.3	70-110	2.8-4.3
				100-200	3.9-7.9			110-130	4.3-5.1	110-130	4.3-5.1
				200-300	7.9-11.8			130-150	5.1-5.9	130-150	5.1-5.9
				300-400	11.8-15.8			150-170	5.9-6.7	150-170	5.9-6.7
25-	1.0-	1.25-	0.5-	0-100	0-3.9	100	3.9	80-120	3.2-4.7	80-120	3.2-4.7
				100-200	3.9-7.9			120-140	4.7-5.5	120-140	4.7-5.5
				200-300	7.9-11.8			140-160	5.5-6.3	140-160	5.5-6.3
				300-400	11.8-15.8			160-180	6.3-7.0	160-180	6.3-7.0

Fig. 2.16 The following table should be used as a guide only for 2013, 2120/B and 2130/B.

Rys. 5 Powyższa tabela powinna być używana tylko dla maszyn formierskich 2013, 2120/B, 2130/B

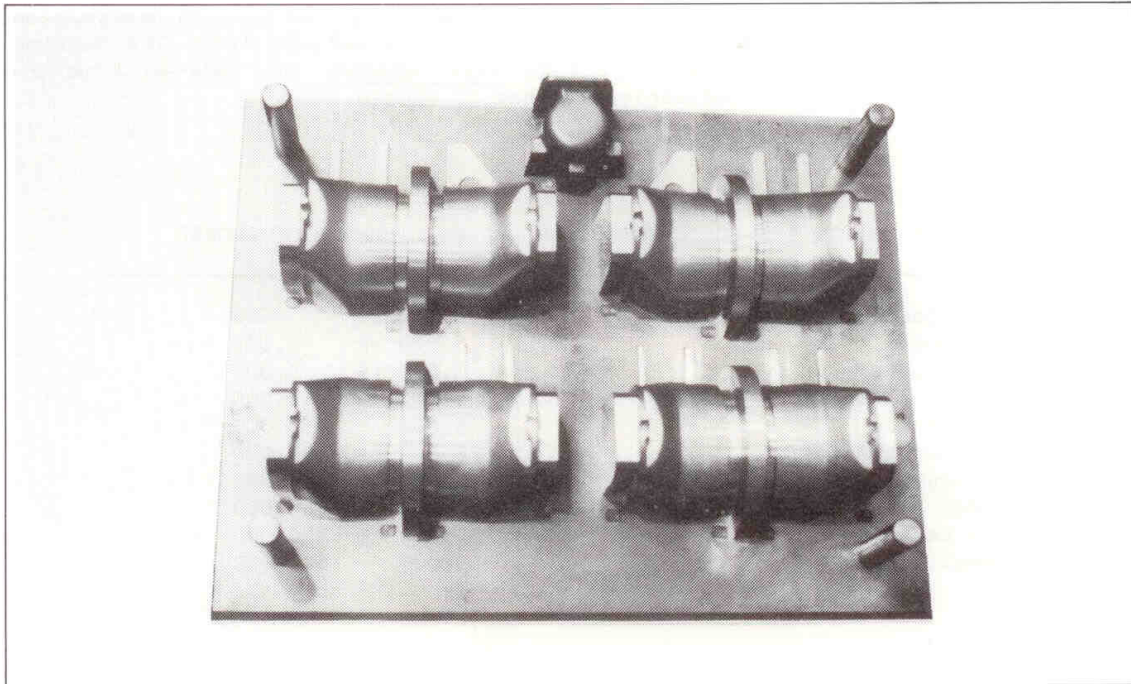


Fig. 2.41 Standard gray iron pattern plate with fully machined brass patterns.

Rys. 6 Standardowa żeliwna płyta modelowa z całkowicie zmechanizowanymi mosiężnymi modelami.

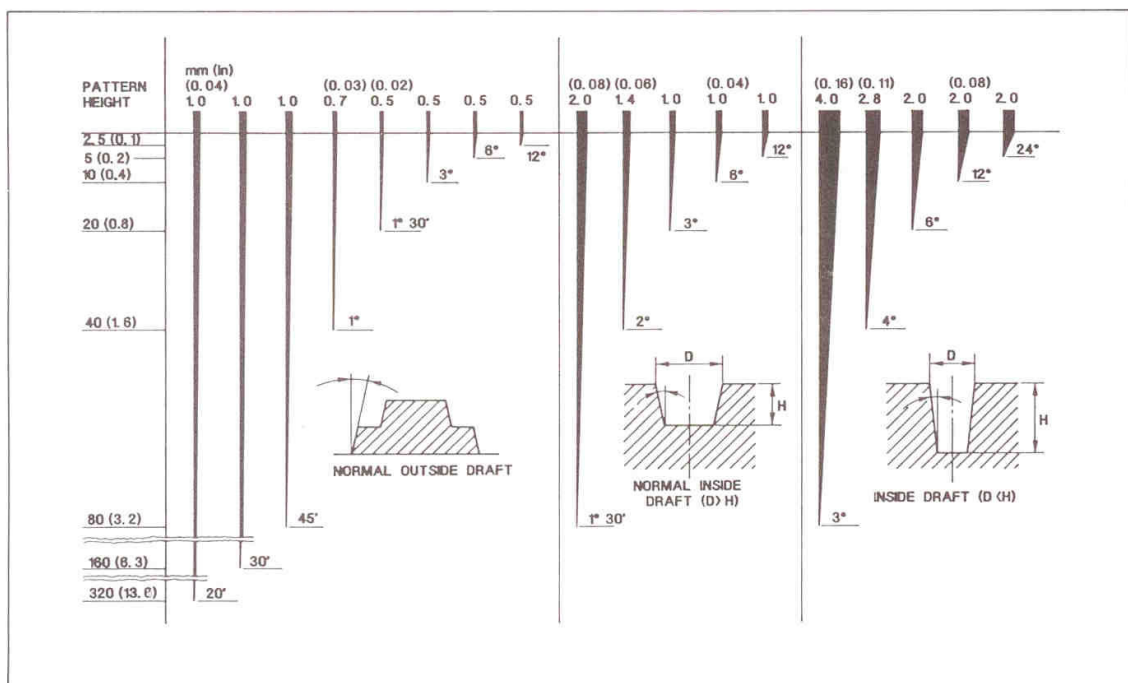


Fig. 2.46 Graphical representation of pattern draft.

Rys. 7 Graficzne przedstawienie odchyleń modelu

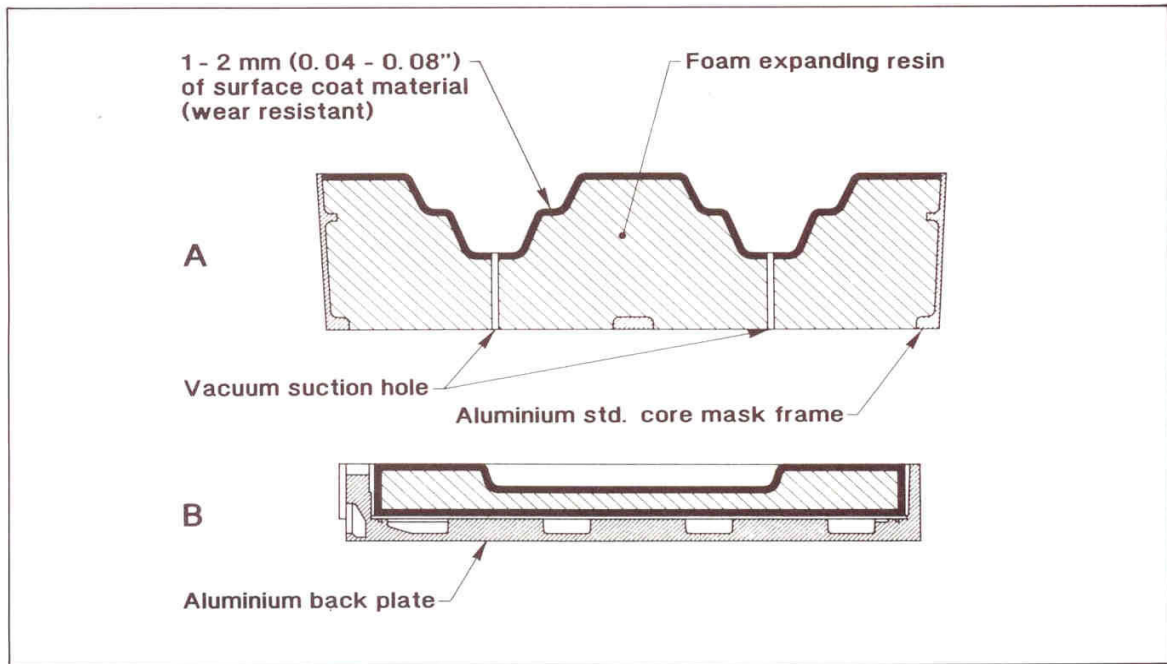


Fig. 2.83 Cross-section through a typical core mask A = Cast into the Al frame (2013, 2070 DMM) B = mounted on Al back plate (2120/2130 DMS)

Rys. 8 Przekrój typowej maski rdzeniowej

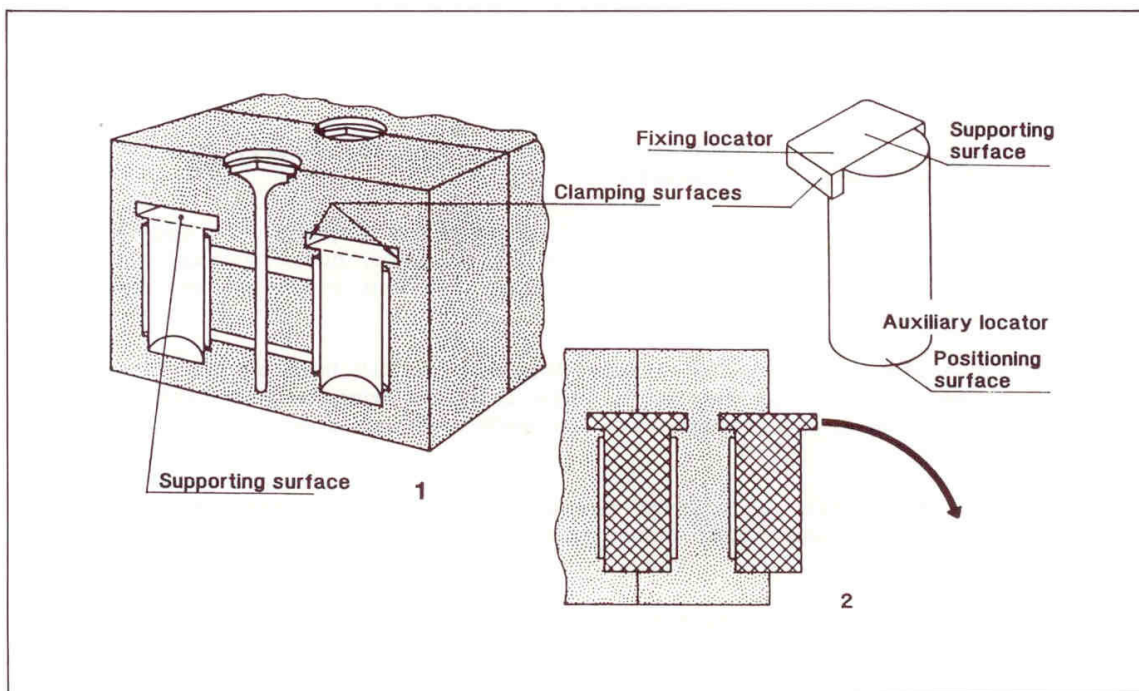


Fig. 2.131 When the core is inserted in the mold, the clamping surfaces of the locator keep the core in position by crush fit (1) and prevents the core from shifting out (2)

Rys. 9 gdy rdzeń jest włożony do formy to powierzchnie dociskania (mocowania) elementów ustalających trzymają rdzeń w ustalonej pozycji poprzez pasowanie (1) i zabezpieczenie rdzenia przed przechyleniem (2)

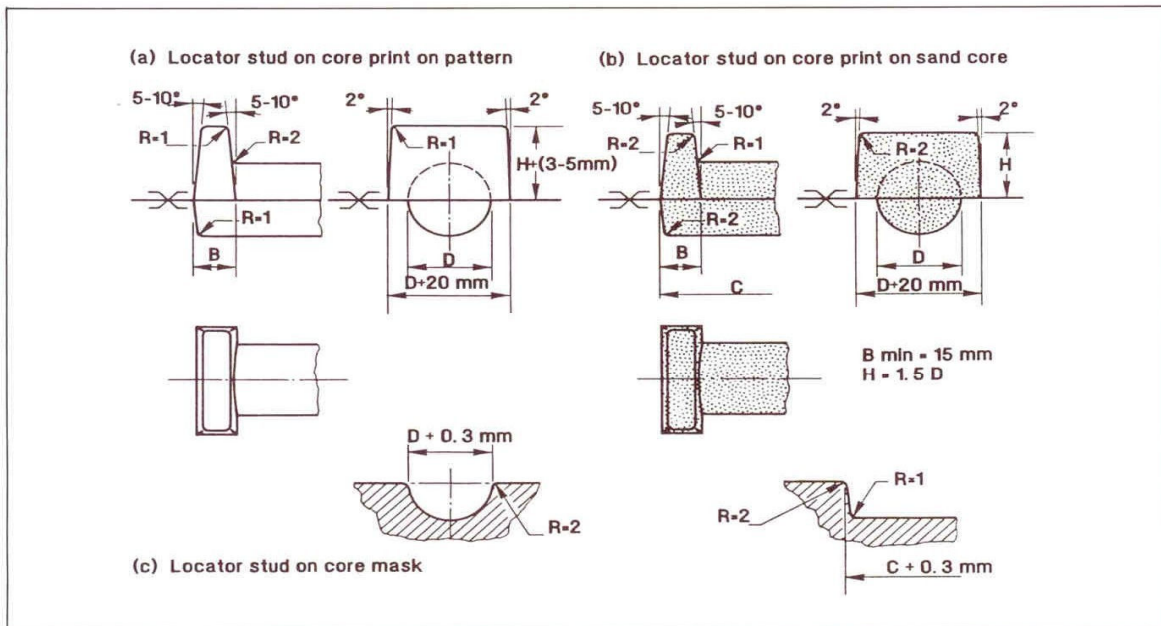


Fig. 2.141 Dimensional tolerances for locator which can be applied in most cases. On this sketch the clamping surfaces are crush-fitted, and the supporting ones are size-to-size. However, for heavier cores an opposite system may be applied.

Rys. 10 Tolerancje wymiarowe dla elementu ustalającego, który może być stosowany w większości przypadków. Na szkicu powierzchnie dociskania są pasowane przez wgniecenie, a powierzchnie podtrzymujące przez wymiary.

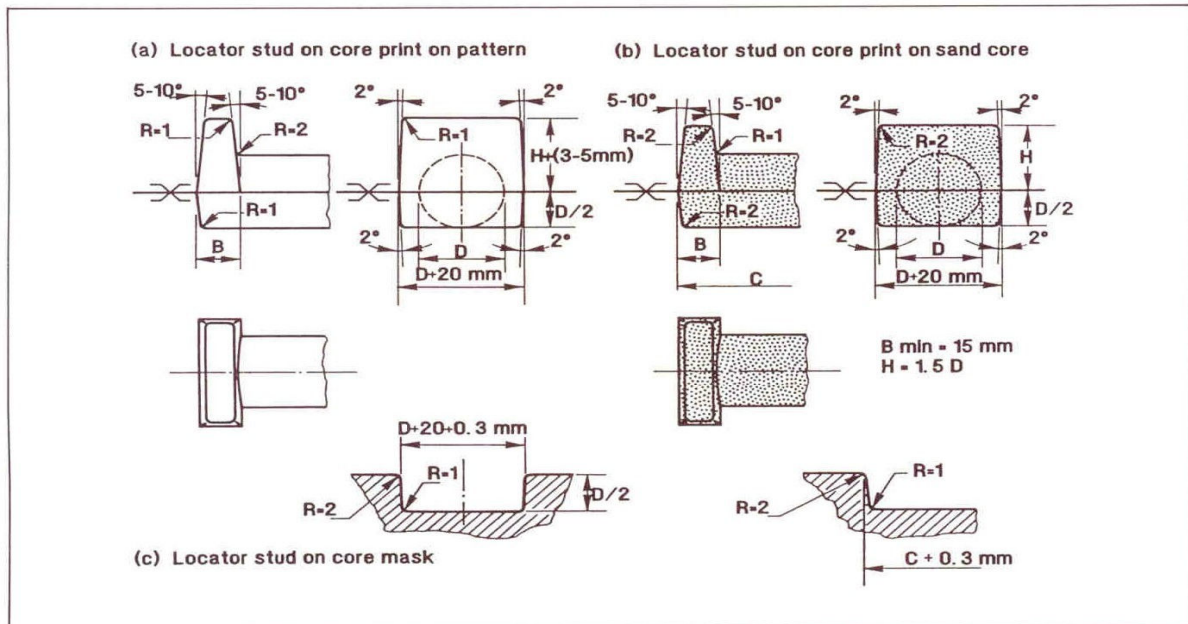


Fig. 2.142 Dimensional tolerances for locators applied in a case where the core requires higher stability in the core setter mask. On this sketch, the clamping surfaces are crush-fitted and the supporting surfaces are size-to-size. For heavier cores, the opposite fit system may be applied.

Rys. 11 Tolerancje wymiarowe dla elementów ustalających stosowanych tam gdzie rdzeń wymaga większej stabilności w wykoju maski rdzeniowej. Na szkicu powierzchnie dociskające są pasowane przez wgniecenie, a powierzchnie podtrzymujące przez wymiar.

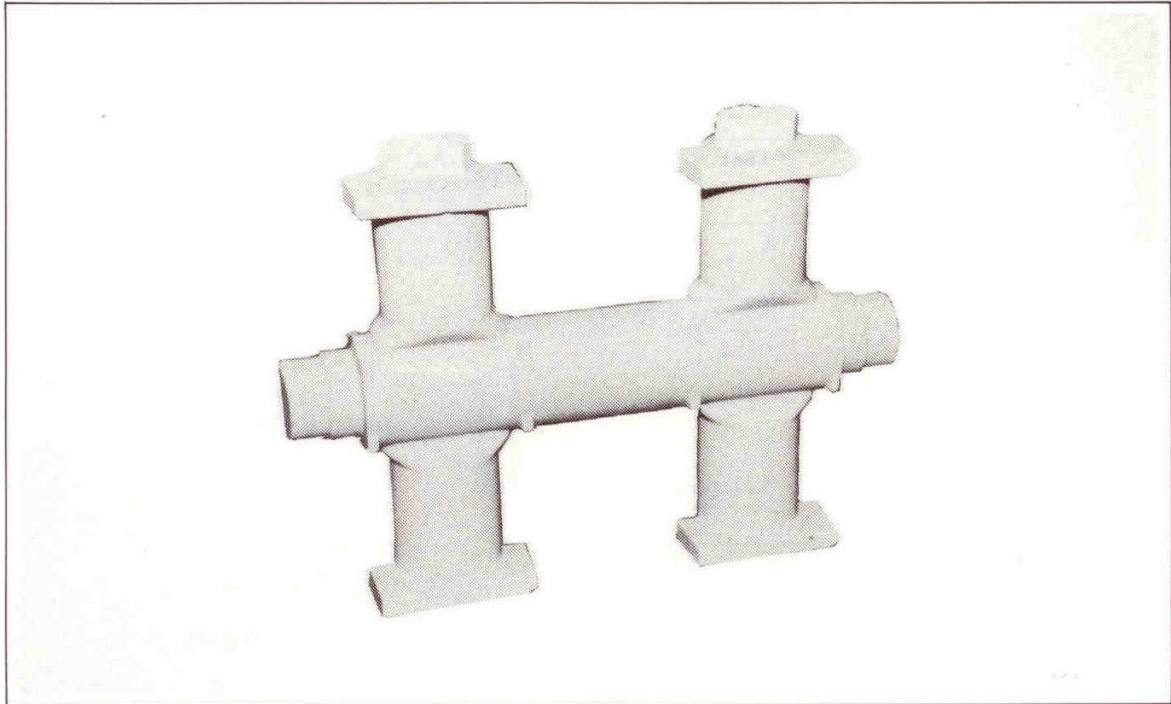


Fig. 2.143 Typical core locator studs for cores for vertically parted molds.

Rys. 12 Typowy element ustalający podpórek rdzeniowych dla częściowo pionowych form.

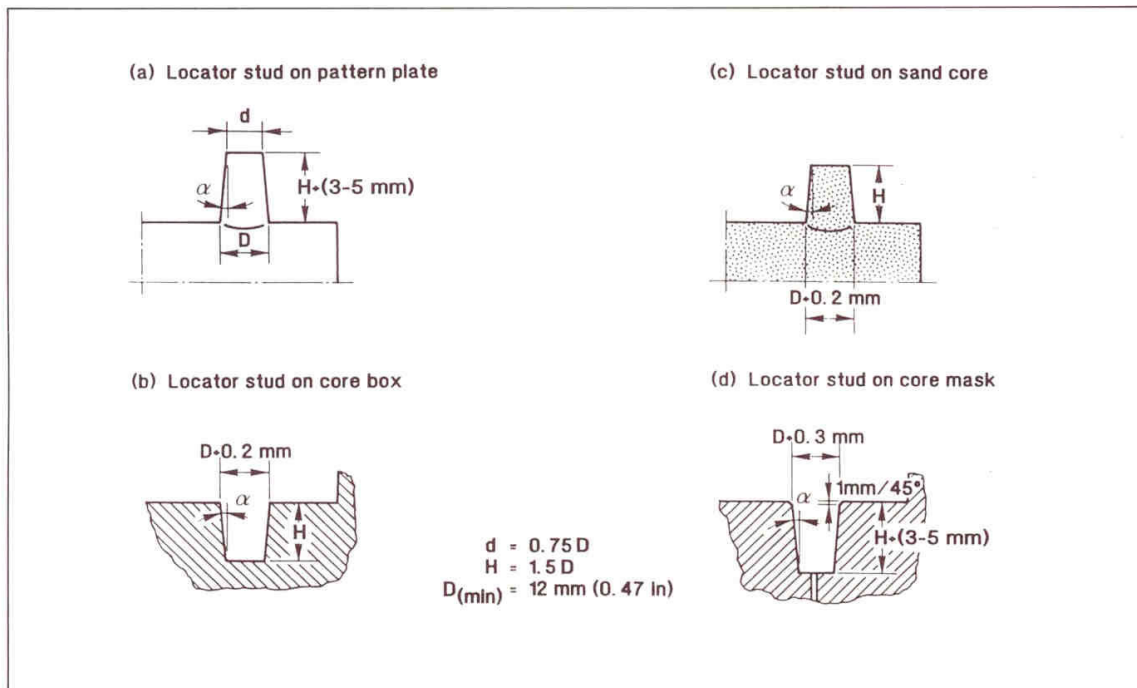


Fig. 2.144 Dimensional tolerances for dowel locator studs used for small cores.

Rys. 13 Tolerancje wymiarowe dla prowadzącego elementu podpórek rdzeniowych dla małych rdzeni.

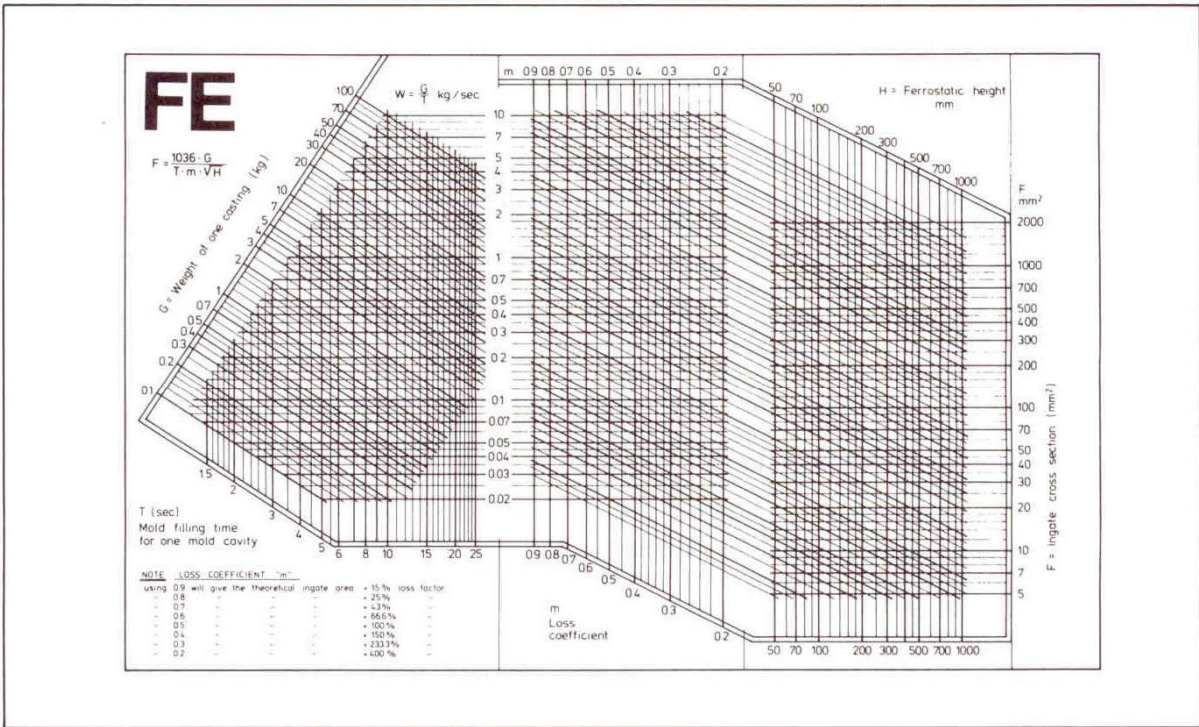


Fig. 3.10 Standard Gating Nomogram for Iron Alloys.

Rys. 14 Standardowy nomogram doboru wlewów dla stopów żelaznych

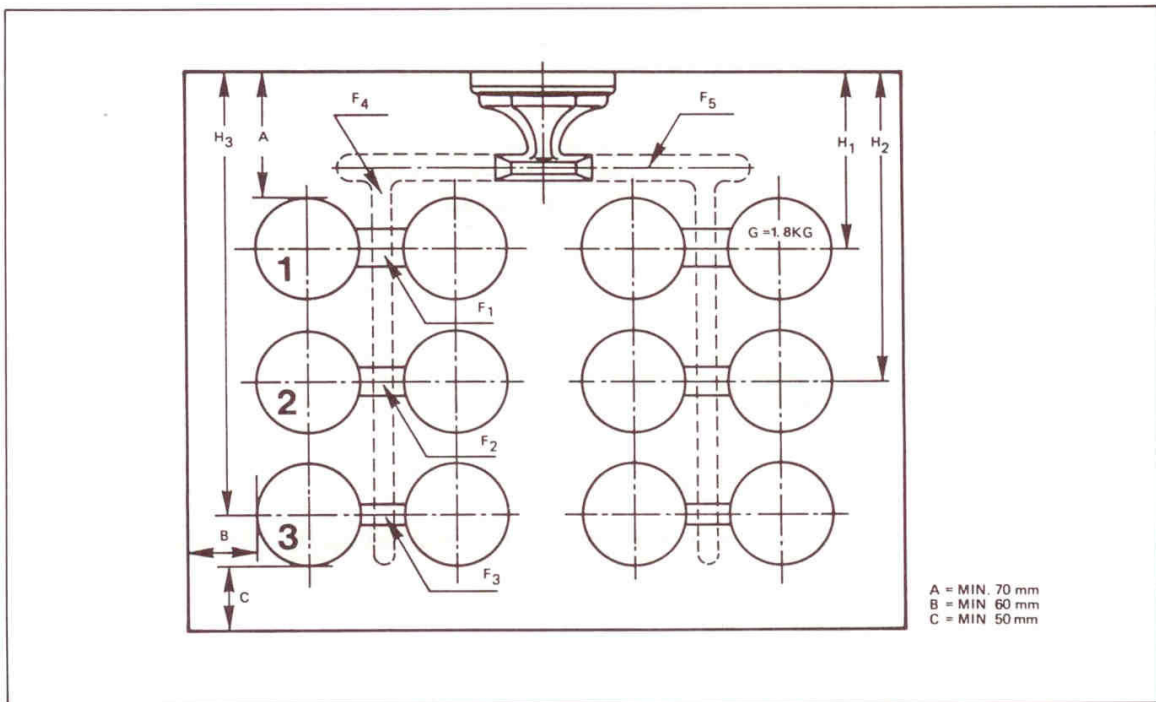


Fig. 3.14 Pattern plate lay-out used in the example.

Rys. 15 Rozmieszczenie na płycie modelowej

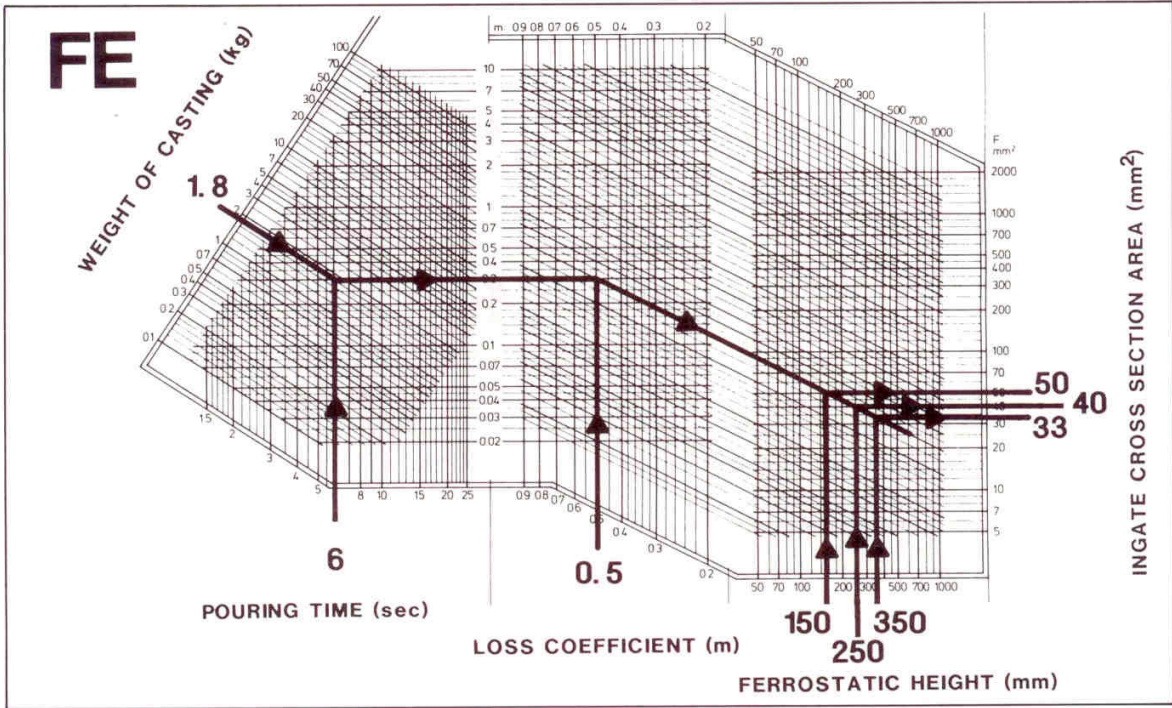


Fig. 3.16 Gating and runner areas are a direct output from the gating nomogram using input data from Fig. 3.15.

Rys. 16 Sposób doboru powierzchni przekroju wlewu doprowadzającego

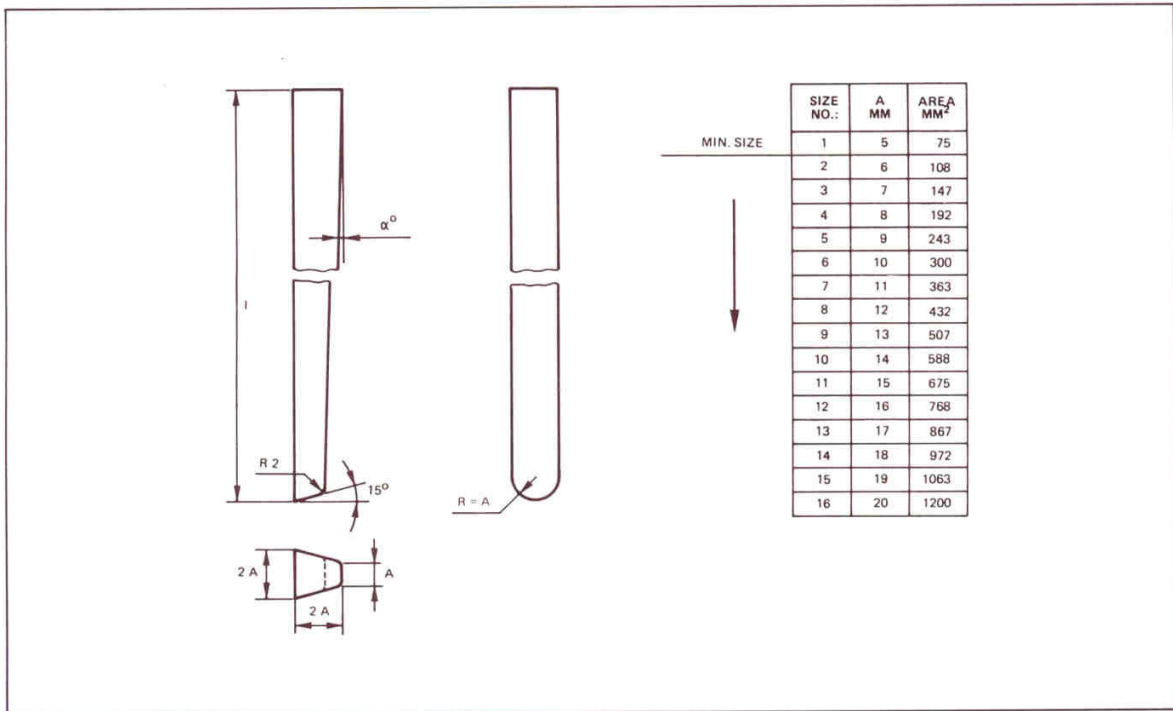
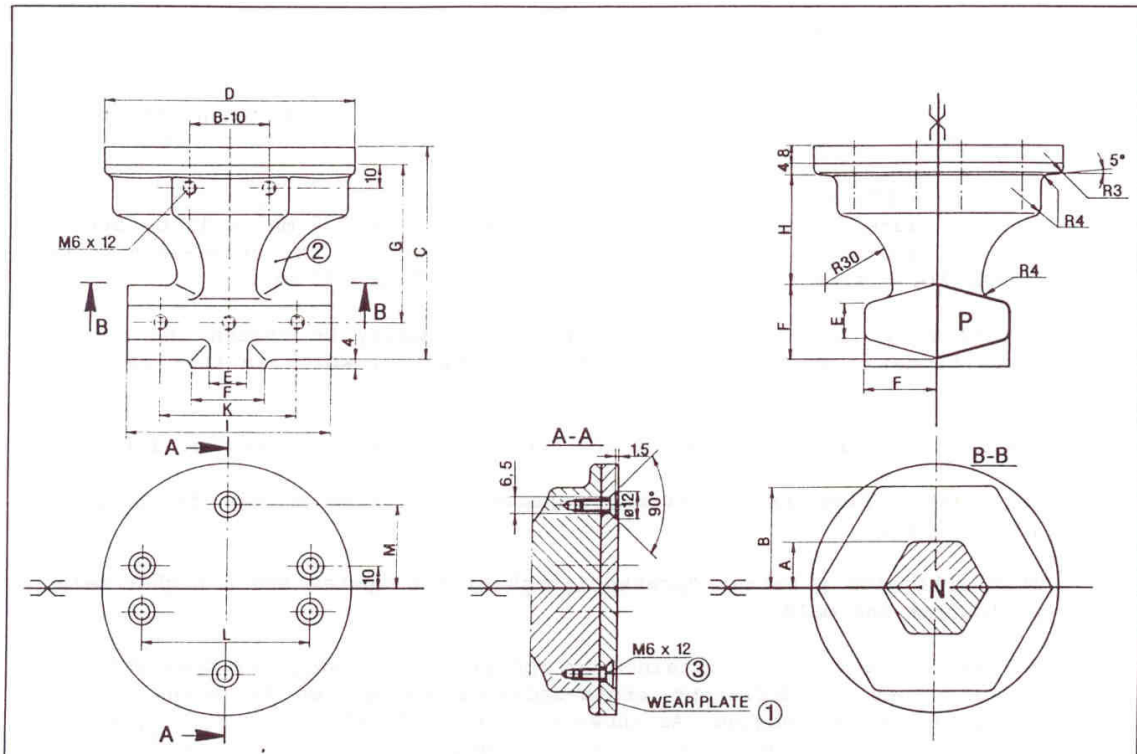


Fig. 3.17 Shape of a trapezoid standard runner.

Rys. 17 Standardowy wlew rozprowadzający



- 1 WEAR PLATE: NYLON 6.6
- 2 POURING CUP: PUR. SADOCAST 521
- 3 SCREWS: M6 x 12 - DIN 7991

GEOMETRY OF POURING CUPS														Area N (mm ²)	Area P (mm ²)	Pouring speed up to ... (kgs/sec)	Weight kg.	Efficiency					
CUP NO.	MEASUREMENTS IN MILLIMETERS											A	B						C	D	E	F	G
1	8	33	66	Ø86	8	16	50	38	58	30	46	25	221	192	1	1.0	1						
2	11	36	72	Ø92	10	20	54	40	66	32	53	28	419	300	2	1.6	1.3						
3	14	39	78	Ø98	12	24	58	42	74	40	60	31	678	432	3	2.0	1.5						
4	17	42	84	Ø104	14	28	62	44	82	44	67	34	1000	588	4	2.7	1.5						
5	20	45	92	Ø110	16	32	68	48	90	48	74	37	1384	768	5	3.3	1.5						
6	23	48	100	Ø116	18	36	74	52	98	52	81	40	1830	972	6	4.2	1.4						
7	26	51	108	Ø122	20	40	80	56	104	56	86	42	2163	1200	7	4.9	1.4						
8	29	54	116	Ø128	22	44	86	60	112	60	91	45	2811	1452	8	5.6	1.4						
9	32	57	124	Ø134	24	48	92	64	120	64	96	48	3422	1728	9	6.4	1.4						
10	35	60	132	Ø140	26	52	98	68	128	68	101	50	4094	2028	10	7.0	1.4						

Fig. 3.21 DISA standard pouring cup and its data for ten different cup sizes for various flow rates.

Rys. 18 Standardowy zbiornik wlewowy

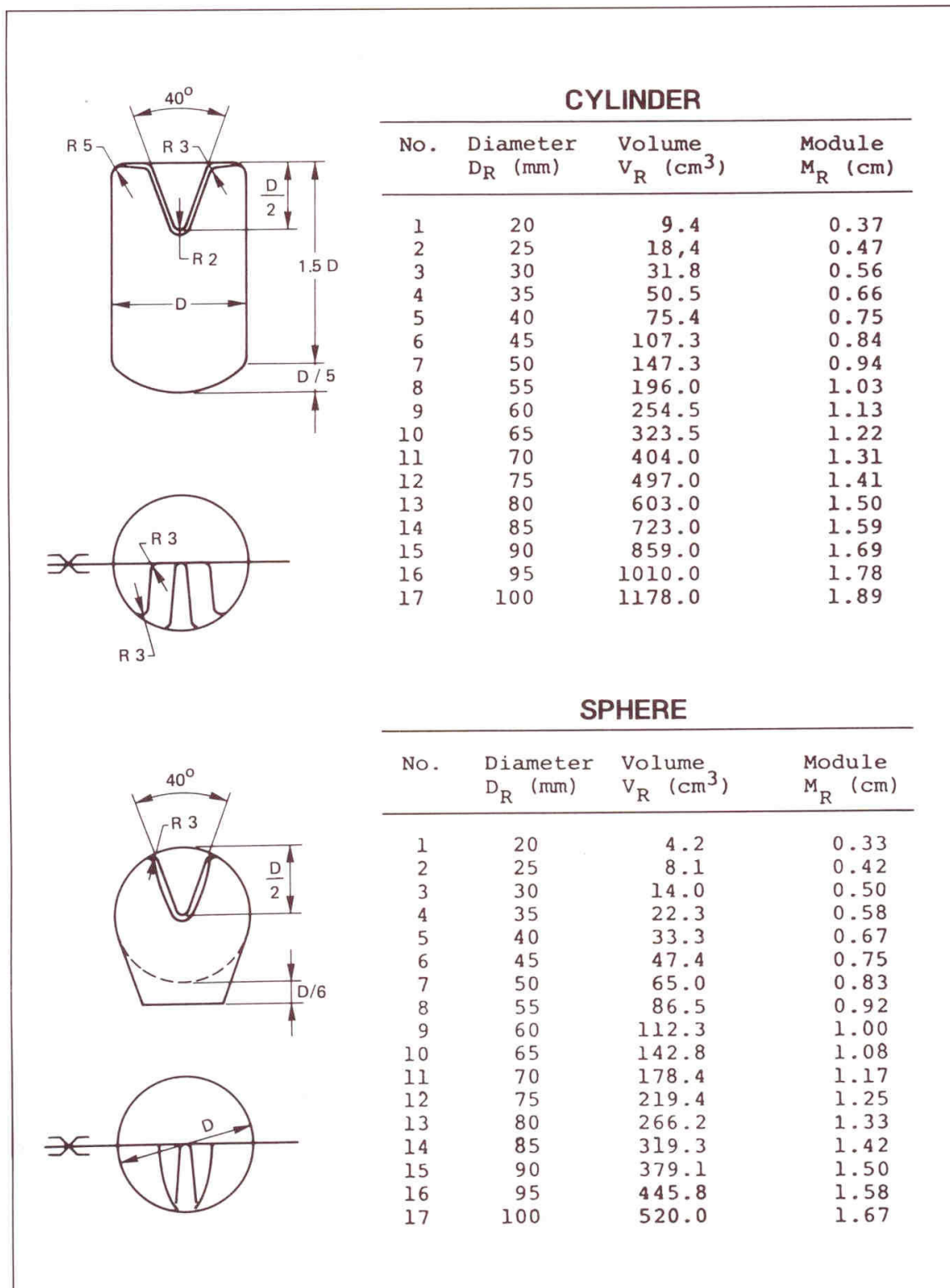


Fig. 3.36. Standard riser shapes.

Rys. 19 Standardowe kształty nadlewów

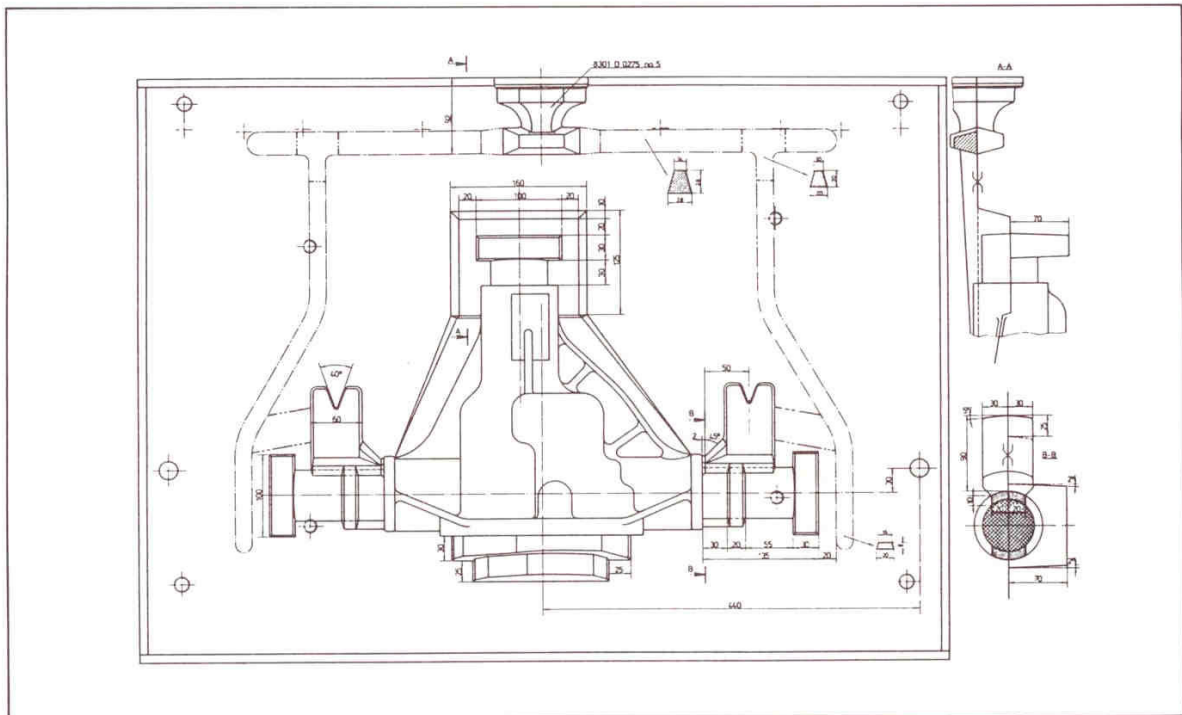


Fig. 3.25 Example of a typical layout drawing designed according to DISA standards.

Rys. 20 Przykład projektu dla DISAMATIC


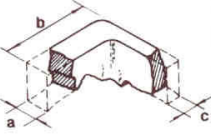
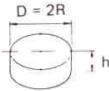
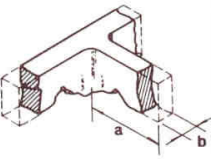
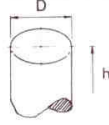
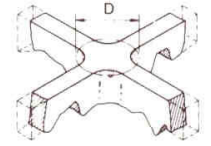
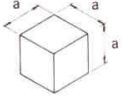
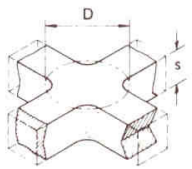
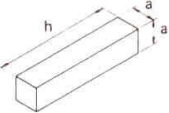
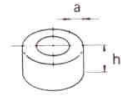
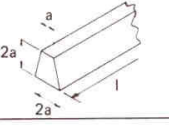
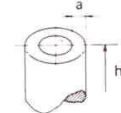
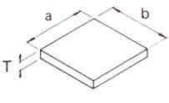
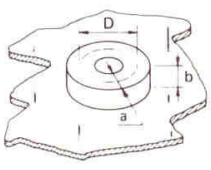
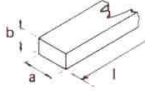
Formulas for calculating solidification modules (M) and determination of required cooling-zone lengths.					
SIMPLE FORMS			COMPLEX FORMS		
Geometrical Form	Description	Solidification Module M (cm)	Geometrical Form	Description	Solidification Module M (cm)
	Sphere	$\frac{D}{6}$		Angle	$\frac{a \cdot b}{2(a+b)-c}$
	Short Cylinder	$\frac{Rh}{2(R+h)}$ or $\frac{Dh}{2(D+2h)}$		A Rib on a Plate	$\frac{a \cdot b}{2(a+b)-b}$
	Cylinder with infinite height (h)	$\frac{D}{4}$		Two crossing Plates	$\frac{D}{2}$
	Cube	$\frac{a}{6}$		Two crossing Bars	$\frac{D \cdot s}{2(D+s)}$
	Bar with square cross section	$\frac{a \cdot h}{2(a+2h)}$		Ring with square cross section	$\frac{a \cdot h}{2(a+h)}$
	Bar with trapezoid cross section with infinite length (l)	0.43a		Hollow Cylinder with infinite height (h)	$\frac{a}{2}$
	Plate a) with infinite length (a) and infinite width (b) b) with length (a) and width (b)	$\frac{T}{2}$ $\frac{abT}{2(ab+aT+bT)}$		Ring closed by a plate	$\frac{a \cdot b}{2(a+b) - \frac{D/a - 1}{D/a}}$
	Bar with rectangle cross section a) with infinite length (l) b) with length (l)	$\frac{ab}{2(a+b)}$ $\frac{abl}{2(ab+al+bl)}$			

Fig. 3.33 The solidification module of the most compact part of the casting can be evaluated by means of approximation of the above geometrical forms.

Rys. 21 Obliczanie modułów dla różnych kształtów