

1. Tabel Modulus Elastisitas Bahan

No.	Material	Berat Jenis (kN/m^3)	Modulus Elastis (MPa)	Rasio Poisson
1.	Aluminium	26 - 28	70.000 - 79.000	0,30 - 0,33
2.	Baja	77	190.000 - 210.000	0,27 - 0,30
3.	Batu	9,4 - 28	20.000 - 100.000	0,20 - 0,30
4.	Besi tuang	68 - 72	83.000 - 170.000	0,20 - 0,30
5.	Beton	23 - 24	17.000 - 31.000	0,10 - 0,20
6.	Gelas	24 - 28	48.000 - 83.000	0,17 - 0,27
7.	Karet	9 - 13	0,7 - 4,0	0,45 - 0,50
8.	Kayu	4,7 - 7,1	11.000 - 14.000	~
9.	Plastik	8,6 - 14	700 - 3.400	0,40
10.	Tembaga	87	110.000 - 120.000	0,33 - 0,36

(J.M. Gere dan S.P. Timoshenko, 2000)

2. Cutting Speed Dan Feed Proses Pembubutan

Work Material	Hardness BHN	High Speed Steel Tool		Carbide Tool	
		Speed	Feed	Speed	Feed
		m/min	mm/rev	m/min	mm/rev
Grey cast Iron	150-180	30	0.25	140	0.30
Grey cast Iron	220-260	20	0.25	90	0.30
Malleable Iron	160-220	33	0.25	50	0.25
Malleable Iron	240-270	-	-	45	0.30
Cast steel	140-180	40	0.25	150	0.30
Cast steel	190-240	26	0.25	125	0.30
C20 steel	110-160	40	0.30	150	0.38
C40 Steel	120-185	30	0.30	145	0.38
C80 Steel	170-200	26	0.30	130	0.30
Alloy Steel	150-240	30	0.25	110	0.38
Alloy Steel	240-310	20	0.25	100	0.30
Alloy Steel	315-370	15	0.25	85	0.25
Alloy Steel	380-440	10	0.20	75	0.25
Alloy Steel	450-500	8	0.20	55	0.25
Tool Steel	150-200	18	0.25	70	0.25
Hot work die steel	160-220	25	0.25	120	0.25
Hot work die steel	340-375	15	0.25	75	0.25
Hot work die steel	515-560	5	0.20	23	0.20
Stainless Steel	160-220	30	0.20	120	0.25
Aluminium Alloys	70-105	210	0.30	400	0.38
Copper Alloys	120-160	200	0.25	300	0.25
Copper Alloys	165-180	85	0.25	230	0.25

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3. Ukuran Diameter Lubang Bor

Metric threads		Piping threads		
Name	Under hole dia. (mm)	Name	Outer dia. (mm)	Under hole dia. (mm)
M2	1.6	PF1/8	9.7	8.6
M3	2.5	PF1/4	13.2	11.5
M4	3.3	PF3/8	16.7	15.0
M5	4.2	PF1/2	21.0	19.0
M6	5.1	PT1/8	(9.7)	8.2
M8	6.8	PT1/4	(13.2)	11.0
M10	8.6	PT3/8	(16.7)	14.5
M12	10.3	PT1/2	(21.0)	18.0