

# PROFILE DIMENSIONS FOR CLOCK & WATCH WHEEL & PINION CUTTERS



## WHEELS

All dimensions as ratios of the module. M. millimetres  
British Standard 978 : Part 2. As Swiss Standard NHS 56702 except for \*

Module M.	Up to and including 0.45, and 1.1 to 1.5	0.5 and up to and including 1.0	Short form 0.2 to 1.0	Round Bottom* 0.2 to 1.0 NHS 56704
Number of teeth	N	N	N	N
Pitch circle diameter	N x M	N x M	N x M	N x M
Outside or tip diameter (diameter of blank)	(N + 2.76) x M	(N + 2.76) x M	(N + 2.76) x M	(N + 2.50) x M
Root Diameter	(N - 3.14) x M	(N - 4) x M*	(N - 2.14) x M	(N - 3.50) x M
Tooth thickness	1.57 x M	1.57 x M	1.57 x M	1.41 x M
Addendum radius	1.93 x M	1.93 x M	1.93 x M	2.00 x M
Angle of cutter flank	2°	2°	2°	4° - 43
Addendum	1.38 x M	1.38 x M	1.38 x M	1.25 x M
Dedendum	1.57 x M	*2 x M	1.07 x M	1.75 x M
Full tooth depth (depth of feed)	2.95 x M	3.38 x M	2.45 x M	3.0 x M

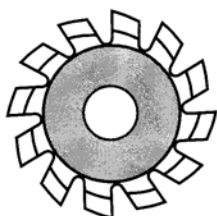
## PINIONS

All dimensions as ratios of the module. M. millimetres  
British Standard 978 : Part 2. As Swiss Standard NHS 56703 except for \*

Number of leaves	6	7	8	10	12	16
Pitch circle diameter	6	7	8	10	12	16
Outside or tip diameter (diameter of blank)	7.71	8.71	9.71	11.61	13.61	17.61
Root diameter *	2.84	3.3	4.2	5.9	7.8	11.8
Leaf thickness	1.05	1.05	1.05	1.25*	1.25	1.25
Addendum radius	1.05	1.05	1.05	0.82	0.82	0.82
Form of addendum	FULL OGIVE PROFILE C 			1/3 OGIVE PROFILE B 		
Angle of cutter flank	20°	17°-9	15°	10°-48	9°	6°-45
Tooth/pitch ratio	1/3	1/3	1/3	2/5	2/5	2/5
Addendum	0.855	0.855	0.855	0.805	0.805	0.805
Dedendum	1.58 <sup>#</sup>	1.85	1.90	2.05	2.10	2.10
Full tooth depth	2.435	2.705	2.755	2.755	2.905	2.905

<sup>#</sup> The old figure of 1.75 is being phased out

To obtain British Standard 978 Part 2, contact:  
British Standards Institute, 389 Chiswick High Road, London W4 4AL. Tel: 020 8996 9001 Fax: 020 8996 7001 Website: [www.bsi-global.com](http://www.bsi-global.com)  
Copies of the Swiss Standard NHS 56702, 56703 and 56704 will be sent by us on request free of charge.



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