



Rock drilling — Extension drill-steel equipment for percussive long-hole drilling — Rope-threaded equipments 7/8 to 1 1/4 in (22 to 32 mm)

Forage des roches — Matériels pour forage percutant de longs trous — Équipements à filetage corde 7/8 à 1 1/4 in (22 à 32 mm)

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 82 has reviewed ISO Recommendation R 1719 and found it suitable for transformation. International Standard ISO 1719 therefore replaces ISO Recommendation R 1719-1970.

ISO Recommendation R 1719 was approved by the Member Bodies of the following countries :

Belgium	India	South Africa, Rep. of
Canada	Iran	Spain
Czechoslovakia	Israel	Sweden
Egypt, Arab Rep. of	Italy	Thailand
France	Japan	Turkey
Germany	Netherlands	United Kingdom
Greece	New Zealand	Yugoslavia
Hungary	Poland	

The Member Body of the following country expressed disapproval of the Recommendation on technical grounds :

Austria*

The Member Body of the following country disapproved the transformation of ISO/R 1719 into an International Standard :

Canada

* Subsequently, this Member Body approved the Recommendation.

Rock drilling — Extension drill-steel equipment for percussive long-hole drilling — Rope-threaded equipments 7/8 to 1 1/4 in (22 to 32 mm)

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the basic dimensions for rope-threaded extension drill-steel equipment for percussive long-hole drilling, of the following nominal sizes :

7/8 in	(22 mm)
1 in light	(25 mm)
1 in	(25 mm)
1 1/4 in light	(32 mm)
1 1/4 in	(32 mm)

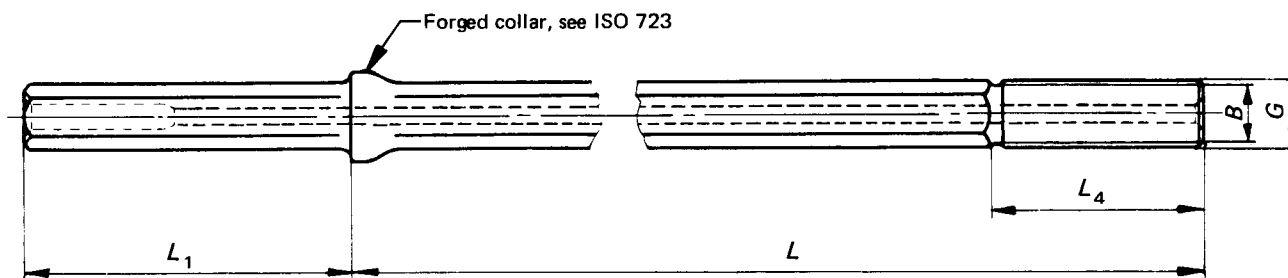
2 REFERENCE

ISO 723, *Rock drilling — Forged collared shanks and chuck bushings for hollow hexagonal drill-steels.*

3 LIST OF COMPONENTS

Equipment	7/8 in (22 mm)		1 in light (25 mm)		1 in (25 mm)		1 1/4 in light (32 mm)		1 1/4 in (32 mm)			
Thread diameter	7/8 in		1 in		1 in		1 1/4 in		1 1/4 in			
Size of drill-steel in bar form	7/8 in hexagonal (22 mm)		7/8 in hexagonal (22 mm)		1 in hexagonal (25 mm)		1 in hexagonal (25 mm)		1 1/4 in round (32 mm)			
Lengths of shank rods (clause 4)	mm	ft	in		—	—	—	—	—			
	1 000	3	3									
	1 800	5	11									
	2 600	8	6									
	3 400	11	2									
Lengths of shank adapters, hexagon type (clause 5)	—		mm	in	mm	in	—		—			
	—		255	10	255	10	—		—			
Shank adapter, lug-shank type (clause 6)	—		Shank-end diameter 1 1/4 in		Shank-end diameter 1 1/4 in		Shank-end diameter 1 1/4 in		Shank-end diameter 1 1/4 in (1 1/2 in)			
Lengths of extension rods (clause 7)	mm	ft	in		mm	ft	in		mm	ft		
	800	2	7		915	3	915		3	915		
	—	—	—		1 220	4	1 220		4	1 220		
	1 600	5	3		—	—	1 525		5	—		
	—	—	—		1 830	6	1 830		6	1 830		
	2 400	7	10		2 435	8	2 435		8	2 435		
	3 200	10	6		—	—	—		—	3 050		
Wrench flats for extension rods	See clause 8											
Coupling sleeves	See clause 9											
Bit diameter (chisel bits) (clause 10)	mm	in		mm	in		mm	in		mm	in	
	36	1 7/16		—	—		—	—		—	—	
	38	1 1/2		—	—		—	—		—	—	
	41	1 5/8		—	—		—	—		—	—	
Bit diameter (four-wing bits) (clause 11)	35	1 3/8		—	—		—	—		—	—	
	38	1 1/2		—	—		—	—		—	—	
	41	1 5/8		41	1 5/8		41	1 5/8		—	—	
	—	—		45	1 3/4		45	1 3/4		—	—	
	—	—		—	—		—	—		48	1 7/8	
	—	—		51	2		51	2		51	2	
	—	—		—	—		—	—		57	2 1/4	
	—	—		—	—		—	—		64	2 1/2	
Rope threads	See clause 12											
Hollow hexagonal bars for extension rods	See clause 13											
Hollow round bars for extension rods	See clause 14											

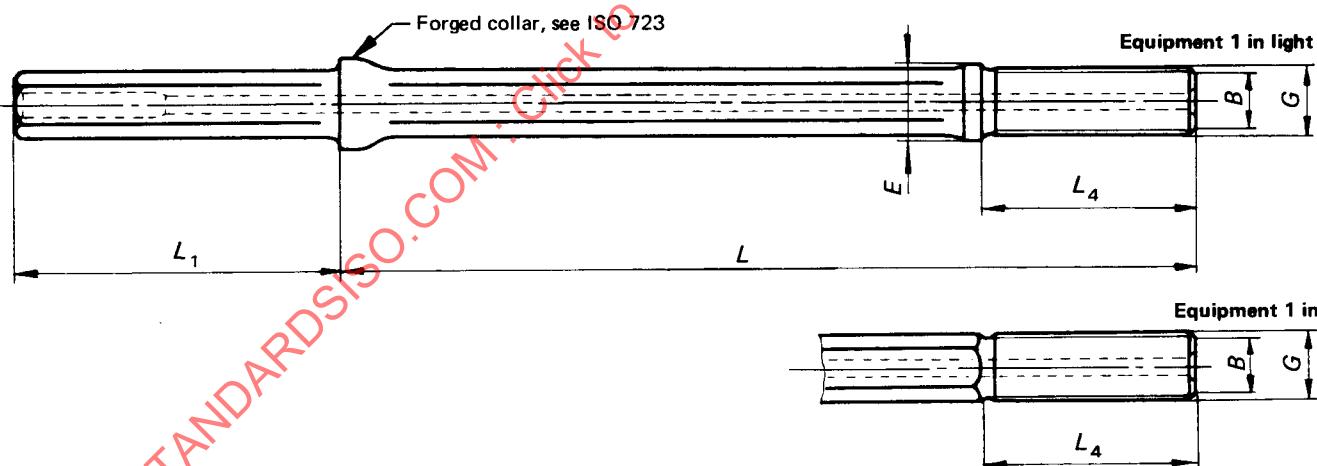
4 SHANK RODS FOR CENTRAL FLUSHING



Equipment	Hexagonal drill-steel (see clause 12) Nominal dimensions		Thread diameter G nominal	B ± 0,7 mm (± 0.027 5 in)		L ± 25 mm (± 1 in)			L1		L4* ± 1 (± 0.039 in)	
	mm	in		mm	in	mm	ft	in	mm	in	mm	in
7/8 in (22 mm)	22	7/8	7/8	16,5	0.650	1 000	3	3 3/8	108	4 1/4	71,5	2.815
						1 800	5	10 7/8				
						2 600	8	6 3/8				
						3 400	11	1 7/8				

* For an eccentric undercut of the thread, where the length of L_4 varies along the circumference of the bar, a tolerance of $\pm 2,5$ mm (0.1 in) is acceptable.

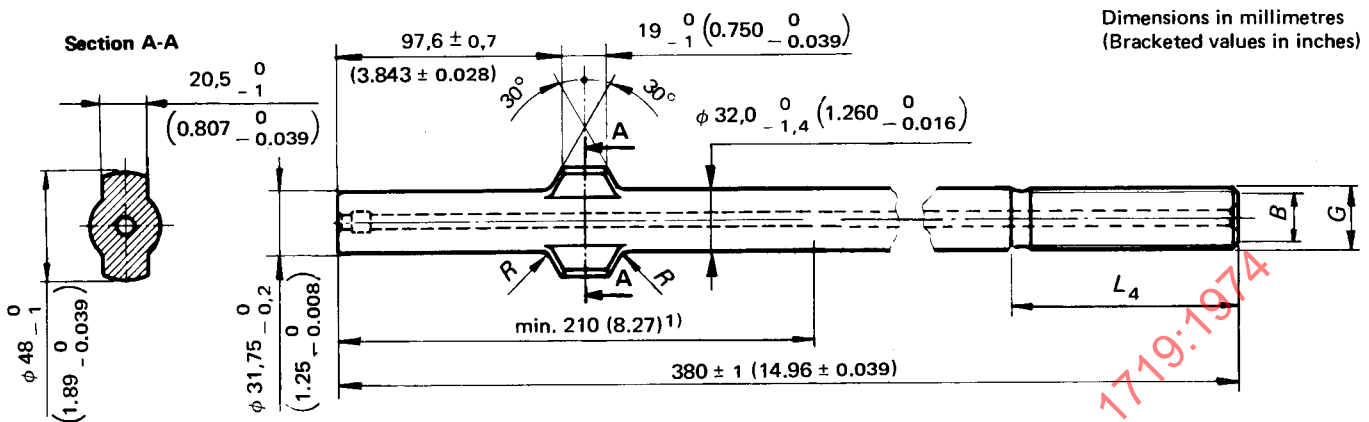
5 SHANK ADAPTERS FOR CENTRAL FLUSHING – HEXAGON TYPE



Equipment	Hexagonal drill-steel (see clause 12) Nominal dimensions		Thread diameter G nominal	B ± 0,7 mm (± 0.027 5 in)		E min.		L ± 25 mm (± 1 in)		L1		L4* ± 1 mm (± 0.039 in)	
	mm	in		mm	in	mm	in	mm	in	mm	in	mm	in
1 in light (25 mm)	22	7/8	1	19,4	0.764	26	1.024	255	10	108	4 1/4	81	3.189
1 in (25 mm)	25	1	1	19,4	0.764	—	—	255	10	108 159	4 1/4 6 1/4	81	3.189

* For an eccentric undercut of the thread, where the length of L_4 varies along the circumference of the bar, a tolerance of $\pm 2,5$ mm (0.1 in) is acceptable.

6 SHANK ADAPTERS FOR CENTRAL FLUSHING – LUG-SHANK TYPE



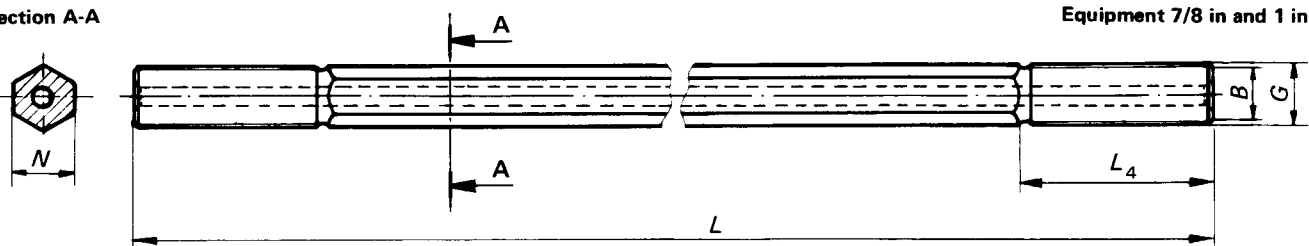
- 1) This refers to the length for which diameter is $32,0_{-0,4}^0 \text{ mm}$ ($1.26_{-0.016}^0 \text{ in}$).

Equipment	Thread diameter G nominal	B ± 0,7 mm (± 0.027 5 in)		L ₄ * ± 1 mm (± 0.039 in)		R max.		Flushing tube			
		Outside diameter ± 0,1 mm (± 0.004 in)		Entry length max.							
	in	mm	in	mm	in	mm	in	mm	in	mm	in
1 in	1	19,4	0.764	81	3.189	4	0.157	10	25/64	82,5	3 1/4
1 1/4 in light (32 mm) 1 1/4 in (32 mm)	1 1/4	25.6	1.008	81	3.189	4	0.157	10	25/64	82,5	3 1/4

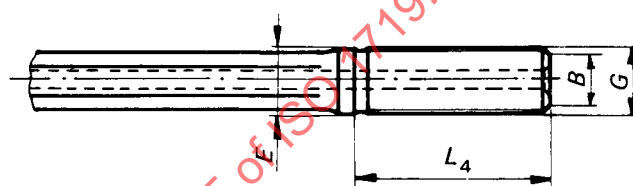
- For an eccentric undercut of the thread, where the length of L_4 varies along the circumference of the bar, a tolerance of $\pm 2,5$ mm (0.1 in) is acceptable.

7 EXTENSION RODS

Section A-A



Equipment 1 in light and 1 1/4 in light

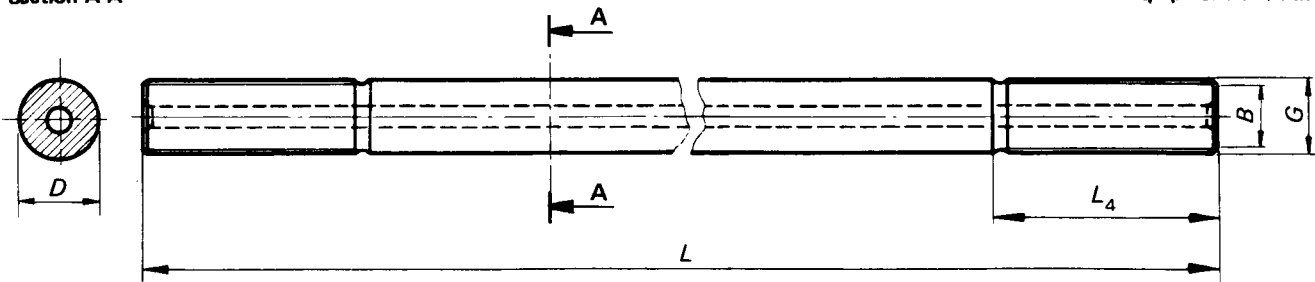


Equipment	Hexagonal drill-steel (see clause 13) N nominal		Thread diameter G nominal	B ± 0,7 mm (± 0.027 5 in)		E min.		L					L ₄ * ± 1 mm (0.039 in)	
	mm	in	in	mm	in	mm	in	Basic dimension	Tolerance	Basic dimension	Tolerance	mm	in	
								mm	mm	ft in	in			
7/8 in (22 mm)	22	7/8	7/8	16,5	0.650	—	—	800 1 600 2 400 3 200	± 10	2 7 1/2 5 3 7 10 1/2 10 6	± 3/8	71,5	2.815	
1 in light (25 mm)	22	7/8	1	19,4	0.764	26	1.024	915 1 220 1 830 2 435	± 25	3 4 6 8	± 1	81	3.189	
1 in (25 mm)	25	1	1	19,4	0.764	—	—	915 1 220 1 830 2 435	± 10	3 4 6 8	± 3/8	81	3.189	
1 1/4 in light (32 mm)	25	1	1 1/4	25,6	1.008	32	1.260	915 1 220 1 525 1 830 2 435	± 25	3 4 5 6 8	± 1	81	3.189	

* For an eccentric undercut of the thread, where the length of L₄ varies along the circumference of the bar, a tolerance of ± 2,5 mm (0.1 in) is acceptable.

Section A-A

Equipment 1 1/4 in

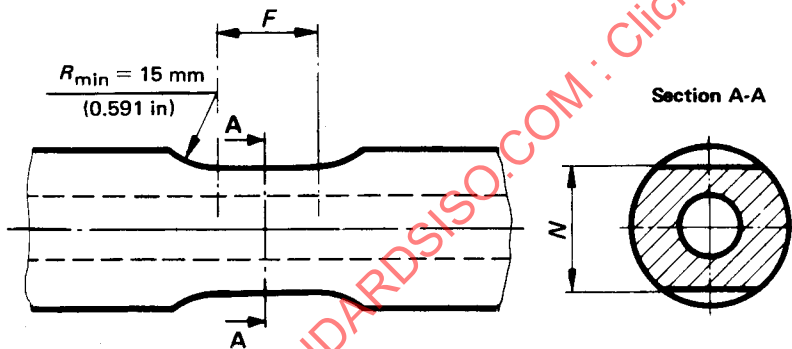


Equipment	Round drill-steel (see clause 13) <i>D</i> nominal		Thread diameter <i>G</i> nominal	<i>B</i> ± 0,7 mm (± 0.027 5 in)		<i>L</i>				<i>L</i> ₄ * ± 1 mm (0.039 in)	
	mm	in	in	mm	in	Basic dimension	Tolerance	Basic dimension	Tolerance	mm	in
						mm	mm	ft in	in		
1 1/4 in (32 mm)	32	1 1/4	1 1/4	25.6	1.008	915 1 220 1 830 2 435 3 050	± 10	3 4 6 8 10	± 3/8	81	3.189

* For an eccentric undercut of the thread, where the length of L_4 varies along the circumference of the bar, a tolerance of $\pm 2,5$ mm (0.1 in) is acceptable.

8 WRENCH FLATS FOR ROUND EXTENSION RODS

NOTE — The application of wrench flats is optional.



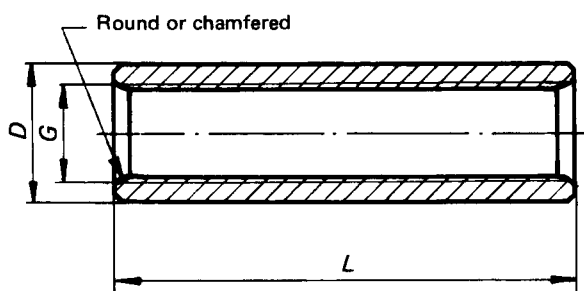
Dimensions in millimetres

Equipment	Round drill-steel Nominal dimension	F min.	N 0 - 0,4
1 1/4 in (32 mm)	32	15	25,6

Dimensions in inches

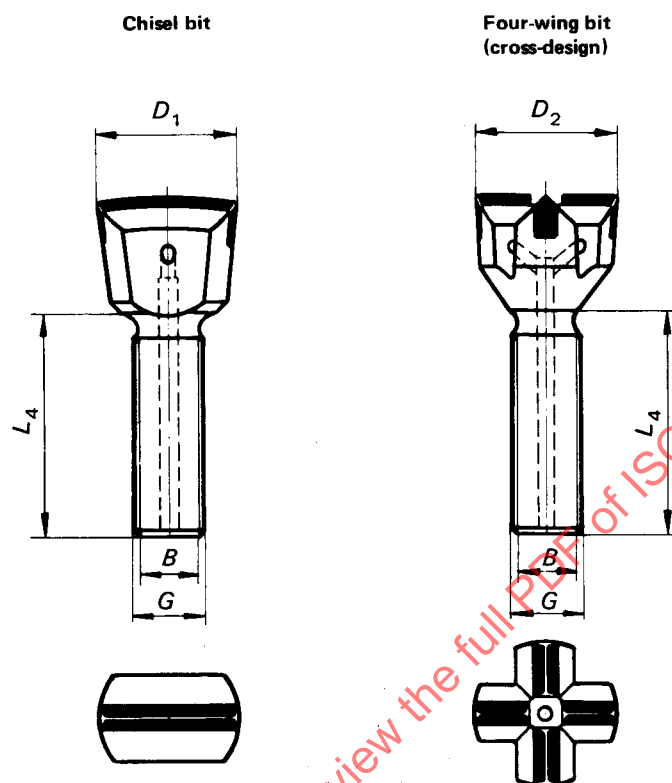
Equipment	Round drill-steel Nominal dimension	F min.	N 0 - 0.016
1 1/4 in (32 mm)	1 1/4	0.591	1.008

9 COUPLING SLEEVES



Equipment	D max.		Thread diameter G nominal	L - 0 mm - 1 mm (0 - 0.039 in)	
	mm	in	in	mm	in
7/8 in (22 mm)	32	1,26	7/8	140	5.5
1 in light (25 mm)	37	1,46	1	160	6.3
1 in (25 mm)	37	1,46	1	160	6.3
1 1/4 in light (32 mm)	45	1,77	1 1/4	160	6.3
1 1/4 in (32 mm)	45	1,77	1 1/4	160	6.3

10 DRILL-BITS FOR 7/8 IN EQUIPMENT



10.1 Chisel bits

Equipment	B ± 0,7 mm (± 0.027 5 in)		D ₁						Thread diameter G nominal	L ₄ *			
			Nominal size		Basic size		Tolerance			Basic size		Tolerance	
	mm	in	mm	in	mm	in	mm	in	in	mm	in	mm	in
7/8 in (22 mm)	16,5	0.650	36	1 7/16	36	1.417	+ 0,3 - 0,1	+ 0.012 - 0.004	7/8	71,5	2.815	± 1	± 0.039
			38	1 1/2	38	1.500							
			41	1 5/8	41	1.614							

10.2 Four-wing bits (cross design)

Equipment	B $\pm 0,7$ mm ($\pm 0.027\ 5$ in)		D_2						Thread diameter G nominal	L_4^*			
			Nominal size		Basic size		Tolerance			Basic size		Tolerance	
	mm	in	mm	in	mm	in	mm	in	in	mm	in	mm	in
7/8 in (22 mm)	16,5	0.650	35	1 3/8	34,92	1.375	+ 0,3 0	+ 0.012 0	7/8	71,5	2.815	± 1	± 0.039
			38	1 1/2	38,10	1.500							
			41	1 5/8	41,28	1.625							

* If there is no undercut so that L_4 is limited by the run-out of the thread and, accordingly, varies at different points of the circumference of the bar, a tolerance of $\pm 2,5$ mm (0.1 in) is acceptable.