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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1722

ROCK DRILLING

EXTENSION DRILL STEEL EQUIPMENT FOR PERCUSSIVE LONG-HOLE DRILLING

REVERSE-BUTTRESS-THREADED EQUIPMENTS

$1\frac{1}{2}$ to $2\frac{1}{2}$ in (38 to 64 mm)

1st EDITION

November 1970

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Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 1722, *Rock drilling – Extension drill steel equipment for percussive long-hole drilling – Reverse-buttress-threaded equipments* $1\frac{1}{2}$ *to* $2\frac{1}{2}$ *in (38 to 64 mm)*, was drawn up by Technical Committee ISO/TC 82, *Mining*, the Secretariat of which is held by the Deutscher Normenausschuss (DNA).

Work on this question led to the adoption of Draft ISO Recommendation No. 1722, which was circulated to all the ISO Member Bodies for enquiry in March 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

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

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1722 | November 1970

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REVERSE-BUTTRESS-THREADED EQUIPMENTS

$1\frac{1}{2}$ to $2\frac{1}{2}$ in (38 to 64 mm)

1. SCOPE

This ISO Recommendation specifies the basic dimensions for reverse-buttress-threaded extension drill steel equipment for percussive long-hole drilling, of the following nominal sizes :

$1\frac{1}{2}$ in light (38 mm)

$1\frac{3}{4}$ in light (45 mm)

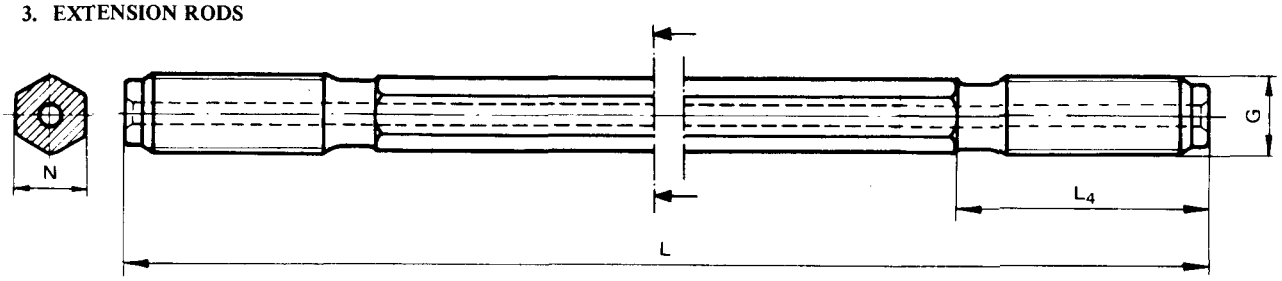
$2\frac{1}{4}$ in light (52 mm)

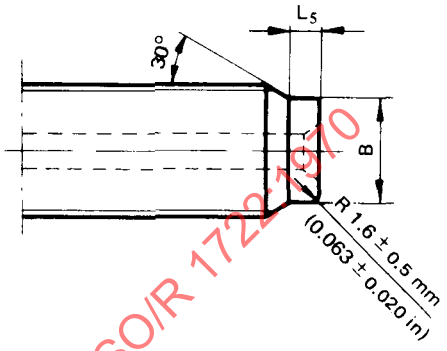
$2\frac{1}{2}$ in light (64 mm)

2. LIST OF COMPONENTS

Equipment	1 1/2 in light (38 mm)		1 3/4 in light (45 mm)		2 1/4 in light (57 mm)		2 1/2 in light (64 mm)	
Thread diameter	1 1/2 in		1 3/4 in		2 1/4 in		2 1/2 in	
Size of drill steel in bar form	1 1/4 in hexagonal (32 mm)		1 1/2 in hexagonal (38 mm)		1 3/4 in hexagonal (45 mm)		1 7/8 in hexagonal (48 mm)	
Lengths of extension rods (See page 7)	mm	ft	mm	ft	mm	ft	mm	ft
	3050	10	3050	10	3050	10	3050	10
	3660	12	3660	12	3660	12	3660	12
	–	–	–	–	6095	20	6095	20
Coupling sleeves	See page 8							
Bit diameters (four-wing bits) (See page 9)	mm	in	mm	in	mm	in	mm	in
	64	2 1/2	–	–	–	–	–	–
	70	2 3/4	–	–	–	–	–	–
	76	3	76	3	–	–	–	–
	89	3 1/2	89	3 1/2	89	3 1/2	–	–
	–	–	102	4	102	4	102	4
	–	–	–	–	115	4 1/2	115	4 1/2
	–	–	–	–	–	–	127	5
Reverse-buttress-threads	See page 10							
Hollow hexagonal bars for extension rods	See page 11							

3. EXTENSION RODS





Dimensions in millimetres

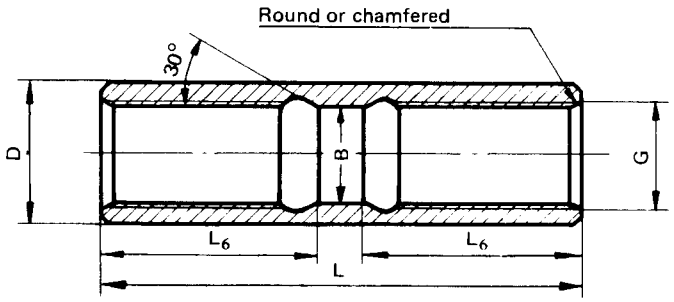
Equipment	Hexagonal drill rod N nominal	Thread diameter G nominal	L Basic size	L Tolerance	L_4* ±1	B Basic size	B Tolerance	L_5 Basic size	L_5 Tolerance
1 1/2 in light	32	1 1/2 in	3050 3660	± 25	123.8	31.50	0 - 0.25	6.35	± 0.5
1 3/4 in light	38	1 3/4 in	3050 3660	± 25	133.4	37.85	0 - 0.25	6.35	± 0.5
2 1/4 in light	45	2 1/4 in	3050 3660 6095	± 25	122.2*	51.10	0 - 0.30	6.35	± 0.5
2 1/2 in light	48	2 1/2 in	3050 3660 6095	± 25	146.0*	53.90	0 - 0.30	7.14	± 0.5

Dimensions in inches

Equipment	Hexagonal drill rod N nominal	Thread diameter G nominal	L Basic size ft	L Tolerance in	L_4* ± 0.039	B Basic size	B Tolerance	L_5 Basic size	L_5 Tolerance
1 1/2 in light	1 1/4	1 1/2 in	10 12	± 1	4.875	1.240	0 - 0.010	0.250	± 0.020
1 3/4 in light	1 1/2	1 3/4 in	10 12	± 1	5.250	1.490	0 - 0.010	0.250	± 0.020
2 1/4 in light	1 3/4	2 1/4 in	10 12 20	± 1	4.813*	2.012	0 - 0.012	0.250	± 0.020
2 1/2 in light	1 7/8	2 1/2 in	10 12 20	± 1	5.750*	2.122	0 - 0.012	0.281	± 0.020

* No thread undercut is required in this instance.

4. COUPLING SLEEVES



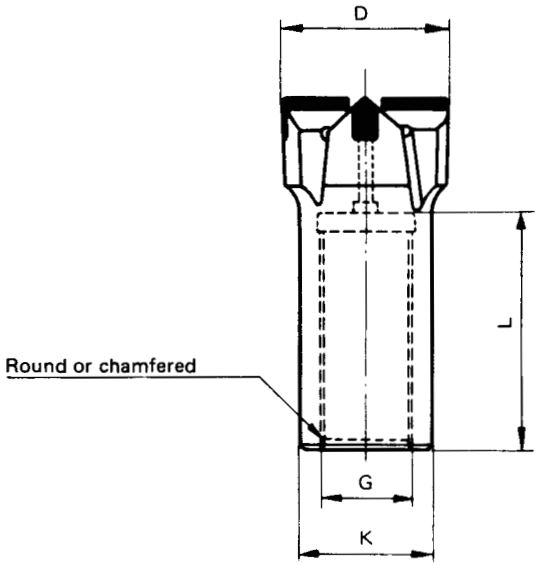
Dimensions in millimetres

Equipment	L_{-1}^{0}	D max.	Thread diameter G nominal	B		L_6	
				Basic size	Tolerance	Basic size	Tolerance
$1\frac{1}{2}$ in light	203	54.4	$1\frac{1}{2}$ in	31.75	$+0.5$ 0	96.3	$+1$ 0
$1\frac{3}{4}$ in light	222	64.0	$1\frac{3}{4}$ in	38.10	$+0.5$ 0	105.0	$+1$ 0
$2\frac{1}{4}$ in light	254	80.0	$2\frac{1}{4}$ in	51.36	$+0.5$ 0	120.9	$+1$ 0
$2\frac{1}{2}$ in light	305	85.3	$2\frac{1}{2}$ in	54.10	$+0.5$ 0	147.1	$+1$ 0

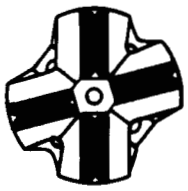
Dimensions in inches

Equipment	$L_{-0.039}^{0}$	D max.	Thread diameter G nominal	B		L_6	
				Basic size	Tolerance	Basic size	Tolerance
$1\frac{1}{2}$ in light	8	2.14	$1\frac{1}{2}$ in	1.250	$+0.020$ 0	3.790	$+0.039$ 0
$1\frac{3}{4}$ in light	8.75	2.52	$1\frac{3}{4}$ in	1.500	$+0.020$ 0	4.134	$+0.039$ 0
$2\frac{1}{4}$ in light	10	3.14	$2\frac{1}{4}$ in	2.022	$+0.020$ 0	4.759	$+0.039$ 0
$2\frac{1}{2}$ in light	12	3.36	$2\frac{1}{2}$ in	2.130	$+0.020$ 0	5.790	$+0.039$ 0

5. FOUR-WING BITS – X-DESIGN



$K_{max} = D - 5$ mm (0.197 in)



X-design

Equipment	Nominal diameter		D				Thread diameter G nominal	L max.	
			Basic size		Tolerance				
	mm	in	mm	in	mm	in	in	mm	in
1 1/2 in light	64	2 1/2	63.50	2.500	+ 0.6	+ 0.024	1 1/2	82.5	3.25
	70	2 3/4	69.85	2.750					
	76	3	76.20	3.000					
	89	3 1/2	88.90	3.500					
1 3/4 in light	76	3	76.20	3.000	+ 0.6	+ 0.024	1 3/4	82.5	3.25
	89	3 1/2	88.90	3.500	+ 0.6	+ 0.024		82.5	3.25
	102	4	101.60	4.000	+ 1.0	+ 0.039		108.0	4.25
2 1/4 in light	89	3 1/2	88.90	3.500	+ 0.6	+ 0.024	2 1/4	108.0	4.25
	102	4	101.60	4.000	+ 1.0	+ 0.039			
	115	4 1/2	114.30	4.500	+ 1.0	+ 0.039			
2 1/2 in light	102	4	101.60	4.000	+ 1.0	+ 0.039	2 1/2	108.0	4.25
	115	4 1/2	114.30	4.500					
	127	5	127.00	5.000					