

Transformed
ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 723

ROCK DRILLING

FORGED COLLARED SHANKS AND CHUCK BUSHINGS
FOR HOLLOW HEXAGONAL DRILL STEELS

1st EDITION

May 1968

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BRIEF HISTORY

The ISO Recommendation R 723, *Rock drilling—Forged collared shanks and chuck bushings for hollow hexagonal drill steels*, 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 by the Technical Committee began in 1960 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In April 1965, this Draft ISO Recommendation (No. 802) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Japan	Sweden
Belgium	Korea, Rep. of	Turkey
Brazil	Netherlands	U.A.R.
Chile	New Zealand	United Kingdom
Czechoslovakia	Poland	Yugoslavia
France	Portugal	
Germany	South Africa,	
Hungary	Rep. of	
India	Spain	

One Member Body opposed the approval of the Draft:

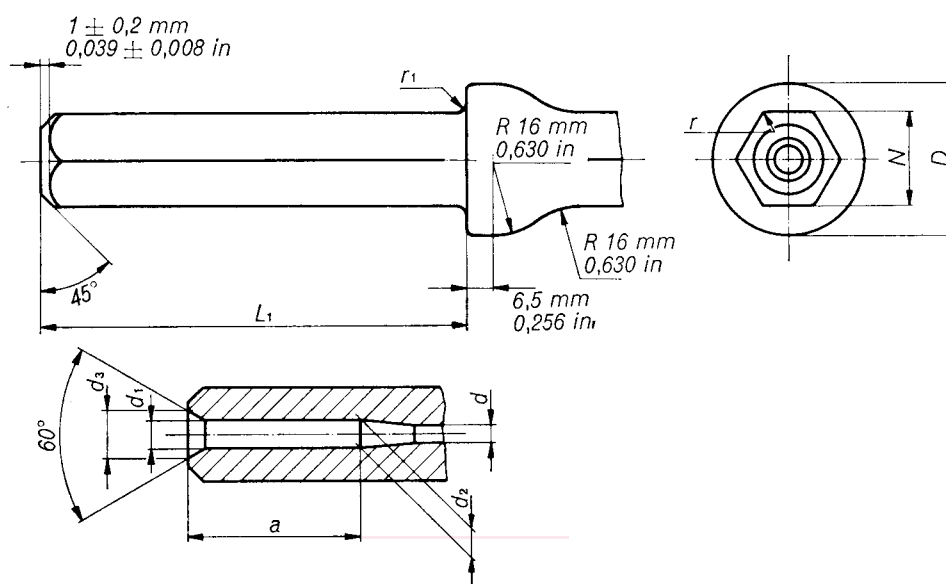
U.S.S.R.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1968, to accept it as an ISO RECOMMENDATION.

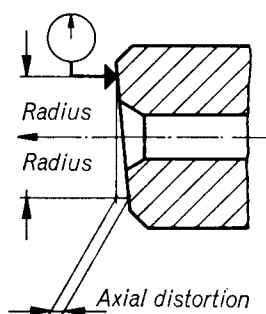
ROCK DRILLING

FORGED COLLARED SHANKS AND CHUCK BUSHINGS FOR HOLLOW HEXAGONAL DRILL STEELS

1. FORGED COLLARED SHANKS FOR HOLLOW HEXAGONAL DRILL STEELS



Eccentricity: Distance between the centre of the hexagon and the centre of the enlarged hole: maximum 0.030 in (0.75 mm),



Axial distortion of end surface,

for $\frac{3}{4}$ in (19 mm) shank: maximum 0.006 in (0.15 mm),
measured at a radius of 0.276 in (7 mm);

for $\frac{7}{8}$ in (22 mm)
and 1 in (25 mm) shanks: maximum 0.008 in (0.2 mm),
measured at a radius of 0.354 in (9 mm).

TABLE 1 — Dimensions in millimetres

Shank mm	L_1	N		D	d	d_1	d_2	d_3	a min.	r	r_1 max.
		Basic size	Tolerance								
19	108 ± 1	19.2	0	33 ± 1	6 ± 0.5	8 ± 0.3	8	9.4 ± 0.4	50	1.5 ⁺¹ ₀	
			-0.4								
22	108 ± 1	22.4		35 ± 1	6.7 ± 0.6	9 ± 0.3	9	10.4 ± 0.4	50	2 ⁺¹ ₀	4.5
25	108 ± 1	25.6	0	38 ± 1	7.6 ± 0.75	9.5 ± 0.3	9.5 ^{+0.3} _{-0.6}	10.9 ± 0.4	50	2 ⁺¹ ₀	
			-0.6								
	159 ± 1	25.6		38 ± 1	7.6 ± 0.75	9.5 ± 0.3	9.5 ^{+0.3} _{-0.6}	10.9 ± 0.4	70	2 ⁺¹ ₀	

TABLE 2 — Dimensions in inches

Shank in	L_1	N		D	d	d_1	d_2	d_3	a min.	r	r_1 max.
		Basic size	Tolerance								
3/4	4 ¹ / ₄ ± 0.039	0.756		1.299 ± 0.039	0.236 ± 0.020	0.315 ± 0.012	0.315 ^{+0.012} _{-0.024}	0.370 ± 0.016	1.969	0.059 ^{+0.039} ₀	
			0								
7/8	4 ¹ / ₄ ± 0.039	0.882	-0.016	1.378 ± 0.039	0.264 ± 0.024	0.354 ± 0.012	0.354 ^{+0.012} _{-0.024}	0.409 ± 0.016	1.969	0.079 ^{+0.039} ₀	
1	4 ¹ / ₄ ± 0.039	1.008	0	1.496 ± 0.039	0.299 ± 0.030	0.374 ± 0.012	0.374 ^{+0.012} _{-0.024}	0.429 ± 0.016	1.969	0.079 ^{+0.039} ₀	0.177
			0								
	6 ¹ / ₄ ± 0.039	1.008	-0.024	1.496 ± 0.039	0.299 ± 0.030	0.374 ± 0.012	0.374 ^{+0.012} _{-0.024}	0.429 ± 0.016	2.756	0.079 ^{+0.039} ₀	

The basic sizes and tolerances of N as well as other relevant dimensions are also valid for 7/8 in (22 mm) and 1 in (25 mm) plain shanks.

2. CHUCK BUSHINGS FOR HOLLOW HEXAGONAL DRILL STEELS
CONNECTING DIMENSIONS

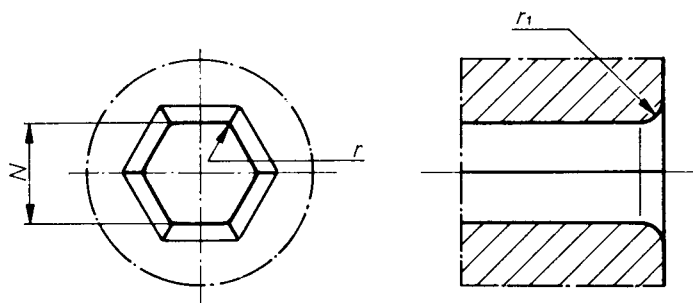


TABLE 3 — Dimensions in millimetres

Chuck bushing mm	Length of forged collared shank	N		r max.	r ₁
		Basic size	Tolerance		
19	108	19.2	+0.25 +0.05	1.2	4.5 ⁺¹ ₀
22	108	22.4			
25	108	25.6			
	159	25.6	+0.35 +0.05		

TABLE 4 — Dimensions in inches

Chuck bushing in	Length of forged collared shank	N		r max.	r ₁
		Basic size	Tolerance		
3/4	4 1/4	0.756	+0.010 +0.002	0.047	0.177 ^{+0.039} ₀
7/8	4 1/4	0.882			
1	4 1/4	1.008			
	6 1/4	1.008	+0.014 +0.002		

These tables are valid for forged collared shanks in the sizes of 3/4 in (19 mm), 7/8 in (22 mm), and 1 in (25 mm) and for plain shanks in the sizes of 7/8 in (22 mm) and 1 in (25 mm).