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INTERNATIONAL STANDARD ISO 3396

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Rotary drilling equipment — Diamond drilling bits and diamond core bits

Équipement de forage rotatif — Trépans à diamants pour forage et couronnes à diamants pour le carottage

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Rotary drilling equipment — Diamond drilling bits and diamond core bits

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the tolerances on outside diameters, gauges and gauging practice, size and style of connection, marking and packaging of diamond drilling bits and diamond core bits intended for oil-field rotary drilling.

2 REQUIRED CHARACTERISTICS

2.1 Sizes

2.1.1 *Tolerances*

The outside diameter of the diamond drilling bits and diamond core bits shall be subject to the tolerances shown in table 1.

TABLE 1

Nominal bit size outside diameter *D*		Tolerance on outside diameter *ΔD*	
mm	in	mm	in
⩽ 171,4	⩽ 6 3/4	$^{0}_{-0,38}$	$^{0}_{-0.015}$
172,2 to 228,6 incl.	6 25/32 to 9 incl.	$^{0}_{-0,51}$	$^{0}_{-0.020}$
229,4 to 349,2 incl.	9 1/32 to 13 3/4 incl.	$^{0}_{-0,76}$	$^{0}_{-0.030}$
⩾ 350,0	⩾ 13 25/32	$^{0}_{-1,14}$	$^{0}_{-0.045}$

2.2 Connections

2.2.1 Diamond drilling bits shall be delivered with the size and style of pin connections shown in table 2. All connection threads shall be right hand.

2.2.2 Connections are stated only for the diamond drilling bits.

Because of its possible proprietary nature, the connection on diamond core bits cannot be shown. This connection should be settled by agreement between the purchaser and the manufacturer.

3 DIAMOND BIT GAUGING

3.1 Gauge specifications

"GO" and "NO-GO" gauges shall be manufactured as shown in the figure overleaf and described below.

3.1.1 "GO" and "NO-GO" gauges shall be a ring, fabricated from 25,4 mm (1 in) steel, with an outside diameter equal to the nominal bit size plus 38,1 mm (1 1/2 in).

TABLE 2

Size of bit		Size and style of rotary pin connection[2]	Bevel diameter[1] ± 0,4	Bevel diameter[1] ± 1/64
mm	in		mm	in
93,7 to 114,3 incl.	3 11/16 to 4 1/2 incl.	2 3/8 REG	77,4	3 3/64
115,1 to 127,0 incl.	4 17/32 to 5 incl.	2 7/8 REG	91,7	3 39/64
127,8 to 187,3 incl.	5 1/32 to 7 3/8 incl.	3 1/2 REG	104,4	4 7/64
188,1 to 238,1 incl.	7 13/32 to 9 3/8 incl.	4 1/2 REG	135,3	5 21/64
⩾ 238,9	⩾ 9 13/32	6 5/8 REG	186,9	7 23/64

1) The bevel diameter is the outside diameter of the contact face of the rotary shouldered connection.

2) Size and style of rotary pin connection are in accordance with API spec. 7.