## 1. DRILLING PIPES

Drilling pipes are assigned to rotational and percussion drillings. Their main tasks are transferring the torque from the engine to the drilling tool and leading the drilling fluid to the bottom of the hole. They also serve as a medium to exert pressure on the tool during drilling a hole.

### 1.1. Wireline drill rods

They are used for drilling geological holes with the help of wireline core barrel without the need to take the drill string out.
Wireline core barrel with the core sample is pulled up to the surface, inside the pipes, using the rope. Thanks to that the time needed is considerably shortened.
Pipes are made in standard lengths 1.5 and 3.0 m

| Type | Outer diameter <br> $(\mathrm{mm})$ | Inner diameter <br> $(\mathrm{mm})$ | Weight (kg) |
| :--- | :---: | :---: | :---: |
| AQ L $=1,5 \mathrm{~m}$ | 44,5 | 34,9 | 7,0 |
| AQ L $=3 \mathrm{~m}$ |  |  | 14,0 |
| BQ L $=1,5 \mathrm{~m}$ | 55,6 | 46,0 | 9,0 |
| BQ L $=3 \mathrm{~m}$ |  | 60,3 | 18,0 |
| NQ L $=1,5 \mathrm{~m}$ | 69,9 |  | 11,7 |
| NQ L $=3 \mathrm{~m}$ |  | 77,8 | 23,4 |
| HQ L $=1,5 \mathrm{~m}$ | 88,9 | 103,4 | 17,2 |
| HQ L $=3 \mathrm{~m}$ | 117,5 |  | 34,4 |
| PQ L $=1,5 \mathrm{~m}$ |  | 23,6 |  |
| PQ L $=3 \mathrm{~m}$ |  | 47,2 |  |



### 1.2. Drill rods

Drill rods consist of a pipe and friction welded with it couplings: pin and box or box and box. For linking pipes of the type box - box subs are needed. Thanks to steel of the best quality that is used to manufacture the couplings, the durabilities of individual drill rods connections are significantly increased, therefore extending the time of their exploitation.
We are making drill rods in standard lengths: $0.75 ; 1.0 ; 1.5 ; 2.0 ; 3.0 ; 4.5 ; 6.0 \mathrm{~m}$ (producing any length of drill rod is possible, according to the needs of the customer).


| Dimensions (mm) | Type | Thread | Weight of 1 m (kg) |
| :---: | :---: | :---: | :---: |
| $32 \times 4,5$ | 32 Cr | $\operatorname{TrP} 26$ | 3,2 |
| $42 \times 5,0$ | 42 Cr | $\operatorname{TrP34}$ | 4,5 |
| $51 \times 5,6$ | 51 Cr | $\operatorname{TrP} 42$ | 6,5 |
|  | 51 Rd | Rd 40 | 6,5 |
| 51 N 42 | N 42 | 6,6 |  |
| $60,3 \times 6,3$ | 60 Cr | $\operatorname{TrP~54}$ | 8,5 |
| $60,3 \times 7,1$ | 60 N 42 | N 42 | 9,6 |
| $60,3 \times 8,8$ | $6023 / 8 "$ | $23 / 8 " \mathrm{API}$ | 9,7 |
| $63,5 \times 7,1$ |  | A50; N42,2 3/8" | 10,0 |
| $73 \times 7,1$ |  | ditto | 11,8 |
| $76,1 \times 6,3$ |  |  | 11,0 |
| $76,1 \times 7,1$ |  |  | 12,0 |
| $76,1 \times 8,8$ |  |  | 14,0 |
| $76,1 \times 10,0$ |  |  | 16,0 |
| $88,9 \times 6,3$ |  |  | 13,0 |
| $88,9 \times 7,1$ |  |  | 15,0 |
| $88,9 \times 8,8$ |  |  | 18,0 |
| $88,9 \times 10,0$ |  |  | 20,0 |
| $114,3 \times 6,3$ |  |  | 17,0 |
| $114,3 \times 7,1$ |  |  | 19,0 |
| $114,3 \times 8,8$ |  |  | 23,0 |
| $114,3 \times 10$ |  |  | 26,0 |
| $140 \times 6,3$ |  |  | 20,8 |
| $140 \times 7,1$ |  |  | 23,3 |
| $140 \times 8,8$ |  |  | 28,4 |
| $140 \times 10$ |  |  | 32,0 |

### 1.3. Reverse circulation drill rods

Pipe in pipe system, used to drill with reverse circulation.


| Type | Catalogue no. | Outer pipe dia. <br> $(\mathrm{mm})$ | Inner pipe diam. <br> $(\mathrm{mm})$ | Weight of 1 m <br> $(\mathrm{~kg})$ |
| :---: | :---: | :---: | :---: | :---: |
| $3 "$ |  | 76,0 | 32 | 15,3 |
| $31 / 2 "$ |  | 88,9 | 42 | 19,1 |
| $4 "$ |  | 101,6 | 51 | 22,9 |
| $41 / 2 "$ |  | 114,3 | 60,3 | 27,3 |

### 1.4. Weights

They are used to exert pressure on the drill tool as well as to facilitate keeping the rectilinearity of the borehole. They are selected depending on the diameter of the drilled hole and the required pressure on drill tools. We are making weights of lengths adapted to needs of the customer.

