



ТОВ «УНІВЕРСАЛЬНА БУРИЛЬНА ТЕХНІКА»

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ЄДРПОУ 40978147, індивідуальний податковий №409781413127

«Universal Drilling Technique, LLC» issues the tender for procurement of alloyed steels in the I-II quarter of 2021 according to the following report

Description	Quantity, t
Alloyed steel 19ХГНМА of different diameters	250
Alloyed steel 14ХН3МА of different diameters	150
Alloyed steel 15Н3МА of different diameters	50

REPORT

Coordination of terms of delivery of hot-rolled rods made of structural alloyed steel

- The report is related to hot-rolled rods made of high-grade structural alloyed steel.
The rods are intended for use in manufacturing of drilling tools by hot-forming method.
- Steel is founded in electric furnaces with vacuum.
- Steel grades and composition shall meet the specification of Table 1.

Table 1

Steel grade	Mass concentration of elements, %								
	C	Mn	Si	Ni	Cr	Mo	S	P	Cu
							not over		
14ХН3МА	0.11	0.60	0.20	3.15	1.35	0.10	0.015	0.015	0.25
	0.15	0.80	0.35	3.35	1.55	0.15			
15Н3МА	0.13	0.40	0.20	3.35		0.20	0.015	0.025	0.25
	0.17	0.60	0.30	3.55	0.20	0.30			
19ХГНМА	0.18	0.70	0.20	0.45	0.45	0.20	0.015	0.025	0.25
	0.22	0.90	0.35	0.65	0.65	0.30			

Notes:

- Calcium (Ca) technological aid is introduced into steel in the amount of 0.02% (without considering waste). Mass concentration of calcium in steel is not controlled. Quality Certificate indicates calculated mass concentration of the element.
- Steel of all grades shall have mass concentration of aluminum (Al) of (0.01 - 0.04%), tungsten (W) – not over 0.20%, titanium (Ti) – not over 0.05%, vanadium – not over 0.05%.
- Mass concentration of nitrogen (N), oxygen (O) and hydrogen (H) is determined in steel of all grades. Quality Certificate indicates actual values of mass fraction of the elements.

Steel composition fluctuations not exceeding the values of DSTU 7806:2015 are allowed in ready-made metal products.

4. Rods are made in size of 30 to 200 mm, length 3.0 – 6.0m.
Rods bending shall correspond to class IV as per DSTU 4738:2007 (GOST 2590-2006).
Rod faces shall be clean-cut and have no burrs. Cutting angle shall not exceed 0.1 of the rod diameter.
Other requirements to rods assortment shall meet the ones of DSTU 4738:2007 (GOST 2590-2006) for the regular B1 accuracy of rolled metal.
Basing on an agreement between the manufacturer and the customer which is detailed in the specification, rods are delivered in the length of cut and in a multiple of the length of cut. Particular length of rods shall be specified in the specification. Limit deviations of rod length of the length of cut and a multiple of the length of cut shall correspond to BD group as per DSTU 4738:2007 (GOST 2590-2006).
5. Rods are supplied annealed or high tempered.
Rod hardness when supplied shall not exceed:
269 HB for rods made of 14XH3MA, 19XГHMA steel grades;
241 HB for rods made of 15H3MA.
6. Rods in diameter of 30 to 40 mm are supplied turned or ground. Rods in diameter of over 40 mm are supplied turned. Surface roughness of the turned or ground rods is not standardized. Surface quality of the turned or ground rods shall correspond to Group 1 specification as per DSTU 7806: 2015.
Basing on an agreement between the manufacturer and the customer which is detailed in the specification, rods in diameter up to 125 mm inclusive can be delivered unturned (unground) with a selective finishing of surface defects. The quality of unturned (unground) rods surface shall correspond to Group 2 as per DSTU 7806: 2015.
The depth of local defects finishing shall not exceed the sum of limit deviation of diameter, calculated from the actual diameter.
7. Rod macrostructure when checked on etched templates shall meet the specification of DSTU 7806:2015 for high-grade steel.
8. Rods are supplied after they are controlled for contamination with non-metallic inclusions by A method as per ASTM E45. Average point of non-metallic inclusions shall not exceed the following specification:
- | | A | B | C | D |
|--------|----------|----------|----------|----------|
| Fine | 2.5 | 2.0 | 0.5 | 1.0 |
| Coarse | 1.5 | 1.0 | 0.5 | 1.0 |
9. The size of austenite grain in rods shall be not bigger than number 6 as per GOST 5639-82.
10. Rod setting ratio shall be not lower than 6 and shall be ensured by the manufacturing technology.
11. Mechanical properties of rods determined at room temperature on longitudinal samples made of heat treated blanks for samples with a cross-section (a circle, a square) (25± 3) mm shall correspond to the standard specifications as per Table 2.

Steel grade	Sample heat treatment mode	Ultimate strength	Yield point	Percentage of elongation	Percentage of contraction	Impact toughness KCU, (J/cm ²)
		σ_B , N/mm ² (kgf/mm ²)	$\sigma_{0.2}$, N/mm ² (kgf/mm ²)	δ_5 , %	I, %	
		no less than				
14XH3MA	1 st hardening (890± 15) °C, quench in					

	oil. 2nd hardening (810± 15) °C, quench in oil. Tempering at (185± 30) °C, air cooling.	980 (100)	882 (90)	11	50	107,8 (11)
15H3MA	1 st hardening (890± 15) °C, quench in oil. 2nd hardening (830± 15) °C, quench in oil. Tempering at (185± 30) °C, air cooling.	784 (80)	686 (70)	12	55	107,8 (11)
19XГH3MA	1 st hardening (890± 15) °C, quench in oil. 2nd hardening (840± 15) °C, quench in oil. Tempering at (185± 30) °C, air cooling.	883 (85)	735 (75)	12	45	78,4 (8)

12. Rods are delivered having been inspected for hardenability by the method of a piece end-quench (Jominy). Limit values of Rockwell hardness shall correspond to the ones indicated in Table 3.

Steel grade	Normalizing and hardening temperature	HRC Hardness at a distance from the face, mm		
		6.5	20	30
14XH3MA	Normalizing (900 ± 20) °C. Hardening (840± 20) °C.	39-45	34-40	29-39
15H3MA		30-40		not over 23
19XГH3MA	Normalizing (920 ± 20) °C. Hardening (860± 20) °C.	33-42		16-24

13. Rods in diameter up to 80mm inclusive are hot-tested for upsetting to 1/3 of their initial height. The upset samples shall have no cupping or cracks.

Rods in diameter over 80 mm are not tested for upsetting and the fact that the rods meet the upsetting requirements is assured by the production technology (after hot upsetting to 1/3 of the initial height the upset samples shall have no cupping or cracks).

14. The acceptance rules and inspection methods shall meet the requirements of DSTU 7806:2015 with the following notes:

- nonmetallic inclusions are controlled by A method as per ASTM E 45;
- mass fraction of nitrogen, oxygen and hydrogen in a ready-made product is determined as per GOST 17745-90 or by other methods not inferior to it in its accuracy.

15. Marking, packing, transportation and storage shall meet the requirements of DSTU 7806:2015 with the following notes:

- one face of each rod in diameter over 42 mm shall be stamped indicating the melt number, steel grade, manufacturer's logo, inspection department supervisor's number;

- in regards to rods in diameter under 42 mm inclusive, the melt number, steel grade, manufacturer's logo, inspection department supervisor's number shall be stamped on surfaces of 5 to 7 check rods of each bunch of rods, faces of which shall be painted.

Delivery time: I-II quarter of 2021 according to the needs.

The deadline for submitting of the commercial offer: till 4 o'clock p.m. of December, 21th, 2020.

The tender documentation must be sent to office@unidrilltech.com.ua;

Tender terms

In order to participate in the tender it is necessary to submit the following documents:

1. The tender bid on the company letterhead providing the following information:

- the prices for the products;
- payment and delivery terms;
- tender bid validity;
- delivery time;
- technical specifications of the offered products (sketches, drawings, quality certificates)

Priority terms:

Payment terms: on delivery, 60 calendar days deferred payment;

Delivery terms – CPT Drohobych, Ukraine (INCOTERMS 2010);

Contact person for sending the tender documentation and additional questions concerning the tender:

Roman Andriiechko – deputy head of the commercial department

e-mail: andriyechko@ukr.net

Hope for cooperation