Gazpromneft Cutfluid Universal

Gazpromneft Cutfluid Universal – is a high-tech semi-synthetic water-miscible universal type cutting fluid with a medium content of mineral oil in its composition, as well as a multifunctional additive package. A wide range of applications and excellent anti-corrosion properties allow Gazpromneft Cutfluid Universal to be used in all main operations of blade and abrasive metal working. Excellent emulsion stability and resistance to biodamage contribute to maximizing the replacement interval and saving money.

Application

Gazpromneft Cutfluid Universal allows machining: low-alloyed, alloyed, structural, machine, non-ferrous metals, stainless steel, deformable and foundry alloys of aluminium, titanium. In conditions where maximum cooling is required without loss of lubricating properties. Used in drilling, milling, turning, reaming, tapping, threading, grinding, etc.

Advantages

- Excellent corrosion protection
- Excellent removal of metal chips
- Increased resistance to biodamage
- Cost-effective in use
- Easily mixed with water
- Long service life of emulsion even with long downtimes
- Excellent stability of the finely dispersed emulsion structure
- Use with water of a wide range of hardness

Recommended concentrations of operating emulsion by operations

Operations	grinding	drilling, turning, milling	screw cutting, reaming
Operating emulsion concentration , %	3-5	5-7	6-8

Typical characteristics

Properties	Method	Gazpromneft Cutfluid Universal
Appearance	Visually	Homogeneous transparent liquid from yellow to brown color. Weak opalescence is allowed
Kinematic viscosity at 40 °C, mm^2/s	GOST 33	40,1
Density at 20°C, kg/m^3	GOST 3900	981
pH in 5% water emulsion	GOST 6243 clause 4	9,2
Refraction factor	Manufacturer data	1,2

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The above data are typical for the products currently available. Due to ongoing research and development, the information contained in the document is subject to change. Information on the safe use of the product is contained in the Safety Data Sheet. More detailed information can be obtained from the company's technical specialists. E-mail: Techservice@gazprom-neft.ru.
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Recommendations for storage, transportation, preparation and control of cutting fluids

The product is supplied to the consumer in the form of concentrate. It is recommended to store and transport at temperature from +5 to 35°C. The coolant should be stored in closed containers protected from direct sunlight and penetration of atmospheric precipitations and contaminants.

Preparation of working emulsion of cutting fluid is carried out by gradual addition and mixing of the calculated amount of concentrate into water (follow the sequence). For high-quality preparation of the working emulsion it is recommended to use special mixers (e.g. proportional dosing devices) when preparing the emulsion, use cool tap water. The temperature of water and concentrate should be in the range of +10°C...+30°C. If the temperature of the concentrate is lower than this, the viscosity will be higher and it will be more difficult to mix the components. Hot water should not be used, as the emulsion stability is impaired when the temperature rises.

Recommendations for adjusting the concentration of the operating emulsion

Formulas for calculating the concentration adjustment
(ω - concentration per cent, V – volume in liters)

Increased concentration is required

$$V_{emulsion\ added} = \frac{V_{emulsion\ poured}(\omega_{\ required} - \omega_{current})}{\omega_{emulsion\ added} - \omega_{\ required}}$$

Decreased concentration required

$$V_{emulsion\ added} = \frac{V_{emulsion\ poured}(\omega_{current} - \omega_{\ required})}{\omega_{required} - \omega_{emulsion\ added}}$$

Gazpromneft-Lubricants Ltd. recommends using emulsions with 12% concentration to increase the concentration of working emulsion, and it is recommended to use 1% emulsion to decrease the concentration of working emulsion.

Gazpromneft-Lubricants Ltd. does not recommend adding water in its purest form to decrease the concentration of the working emulsion, as in this case problems with the stability of the working emulsion may occur, which will negatively affect the processing of parts and equipment.

The company's management system is certified in accordance with the international standards

ISO 9001 ISO 14001 ISO 45001

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