Gazpromneft Cutfluid Al

Gazpromneft Cutfluid Al – semi-synthetic water-miscible cutting fluid for a wide range of applications with mineral oil content. The concentrate provides versatility and emulsion stability even under extreme metal working conditions. Especially recommended for aluminium, aluminium alloys, aircraft alloys.

Application

Gazpromneft Cutfluid Al is designed for most metalworking operations: grinding, turning, cutting, drilling and milling. Recommended for various ferrous metals including steel and cast iron, aluminium and its alloys, non-ferrous metals. Especially recommended for aluminium, aluminium alloys, aircraft alloys.

Advantages

- Excellent corrosion protection
- Does not cause oxide film on aluminium
- Excellent removal of metal chips
- Excellent cooling properties
- Cost-effective in use
- Easily mixed with water
- Long emulsion service life
- Excellent stability of the finely dispersed emulsion structure
- Use with water of a wide range of hardness
- Environmentally friendly product
- Does not contain boric acid or formaldehyde-releasing components

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 Al
Appearance	Visually	Homogeneous transparent liquid from yellow to brown in color. Weak opalescence is allowed
Kinematic viscosity at 40 °C, mm^2/s	GOST 33	60,6
Density at 20°C, kg/m^3	GOST 3900	946
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. 06/2024

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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