

## ZIEHOEL AK 2060

### WATER-MISCIBLE WIRE DRAWING FLUID

#### PRODUCT DESCRIPTION

It is a wire drawing fluid which is formulated with mineral based oils at high concentrations, strong emulsifiers, foam and microorganism preventive chemicals and forms stable emulsions with water.

#### APPLICATION / USAGE

It is a product with high lubricating and cleaning power, and it is used successfully by making emulsion with water in drawing medium and thin copper wires in multi-wire machines moving at high speed. Thanks to its special formulation, it can be used for tin, nickel and silver coated wire drawing.

The usage concentrations according to the operations are stated below:

	Wire Diameter	% Concentra.
Thick Wire	Ø 12,8-4,0	10-12
Medium Wire	Ø 1,5-0,4	6-8
Fine Wire	Ø 0,4-0,1	3-5

(Ø: mm)

It is necessary to take precautions in order to maintain the emulsion temperature at 30-40°C range.

It is recommended that the system is chemically cleaned with **CLEAN S** or **CLEAN S SUPER** and also mechanically before the preparation of emulsion. Effective chemical and mechanical cleaning will prolong the life of the emulsion. The water to be used in the emulsion should have a Total Hardness of 5 °dH and should not contain any microorganisms. Water containing chemical salts may negatively influence the corrosion resistance of the product.

The emulsion should be prepared by adding ZIEHOEL AK 2060 on the water meeting the recommended water specifications and blending slowly, in an emulsion preparation tank if possible. It is recommended to use mechanical mixers for blending process. As unstable emulsions occur as a result, water should never be added on the product during preparation. Demineralized water is recommended to be added to the system in case that water addition is necessary.

% Concentration, pH and conductivity controls are

recommended to be performed daily. % Concentration range may vary according to the wire type, thickness and drawing speed.

#### ADVANTAGES / BENEFITS

- Thanks to its special additives, it can be used successfully even under the most difficult conditions by resisting high pressure and heat.
- It does not stain the material and provides good surface quality.
- Thanks to its effective washing feature, it prevents accumulation in the mill entrance and the pulley area, keeps the machines clean,
- During the drawing operation, it removes the metal dust coming from the wire surface effectively from the operation area, it precipitates it quickly,
- It has very good lubricity, minimizes wear,
- It can be used efficiently in pre-enamel coating operations where wire surface quality and cleanliness are priority, does not cause problems in coating operation,
- Provides efficient operation in thin wire drawing operations where it is important to remove metal powders from the mill inlet,
- Provides the emulsion to be used for a long time by showing resistance against microorganisms,
- Since its pH value adjusted it does not cause sensitivity or harm on the skin.

#### STORAGE

Protect from direct sunlight and rain. Store in the original closed drums and in covered areas. Storage temperature must be between (+5)-(+40)°C.

#### HEALTH AND SAFETY

This product is unlikely to present any significant health or safety hazard when properly used in the recommended application. Used or waste product should not be allowed to contaminate soil or water. Used or waste product should be disposed of in accordance with local regulations. For further guidance on product Health and Safety refer to the appropriate Material Safety Data Sheet.

"The above information is derived from our quality checks. Given values are typical of current production. While future production will conform to our specification, variations in these characteristics may occur. Quality Control Analysis Report for to learn properties of the product that is supplied can give. It does not relieve the purchaser from examining product upon delivery and gives no assurance of the product for any particular purpose. Due to continual product research and development, the information contained herein is subject to change without notification."

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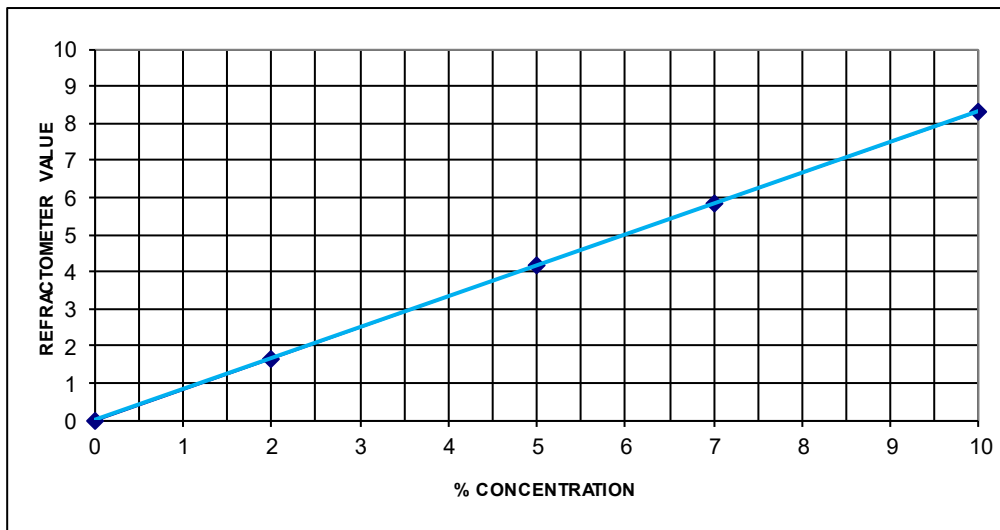


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TECHNICAL PROPERTIES	TEST VALUES	TEST METHOD
Appearance	Brown, clear	-
Emulsion Appearance (%5)	Milky	-
pH (%5)	9,8	ASTM D 1287
Refractometer Factor	1,2	Hand Refractometer

**Concentration Control:**

% Concentration	Refractometer Value
2	1,7
5	4,2
7	5,8
10	8,3



The data provided for the % concentration control is prepared according to the data obtained for the freshly prepared emulsion. As the utilization time of the emulsion and the undesired oil/contamination amount in the system increases, deviations from the data stated above should be taken into account.

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