

# METAL FORMING FLUIDS

## QUAKERDRAW® 4470 EXPANDER EXPANDER OIL

### APPLICATION SHEET

#### BENEFITS

- » Expansion of thick wall material
- » Suitable for large diameter pipes
- » Easy cleaning also waterbased
- » No sticky residues
- » Compatible with seals
- » Excellent lubrication properties

#### APPLICATIONS

Neat lubricant formulated with selected raw materials and additives which allow it to perform at extremely high levels. It has been designed for the tube expanding operations on LSAW pipes having thick-wall requiring expansion.

Concentration: Use as received.

#### FLUID MAINTENANCE

Prior to making any fresh fill, we highly recommend full cleaning of all system components which will be in contact with the oil.

Advice for keeping optimal oil performance and longer oil sump life:

- » Avoid water contamination.
- » Minimize pollution with aqueous metalworking coolants or cleaners.
- » Minimize pollution with tramp-oil (hydraulic oils, slideway oils, etc.....).
- » Use proper filtration unit to remove swarf and chips.
- » Avoid overheating.

Please consult a Quaker representative for any additional information.



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#### STORAGE/PACKAGING

Quaker Chemical can supply this quality product in drums, in containers and in bulk. Other packages can be made available by Quaker Chemical or by distributors upon request.

As with all metalworking products, QUAKERDRAW® 4470 EXPANDER should be stored in dry conditions and protected from extreme temperatures: 4 - 40 °C is the recommended storage temperature.

Good standards of personal and industrial hygiene are to be maintained by the user (see Material Safety Data Sheets).

This product has a recommended shelf life of: 6 months

#### APPLICATIONS

- Immersion
- Brush
- Spray
- Electrostatic

#### OPERATIONS

- Punching
- Bending
- Blank washing
- Light forming
- Medium forming ●
- Heavy forming ●
- Ironing
- Calibration drawing ●
- Fine blanking
- Fin Stamping

#### MATERIALS

- Low Carbon steel 0,2 ●
- HSLA and DP steels ●
- HDG coated steel
- Galvannealed steel
- Stainless steel
- High alloy steel ●
- Aluminium alloys
- Copper alloys

● Main application ○ Possible application

#### PROPERTIES

PROPERTY	TYPICAL VALUE	UNIT
Appearance / Colour	Clear Dark Amber	[-]
Viscosity	470	[mm <sup>2</sup> /s @ 40 °C]
Density	917	[kg/m <sup>3</sup> @ 15 °C]
Flash point (COC)	>200	[°C]

These characteristics are typical of current production and can't be used as a specification.

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Prior to using this product, consult the Material Safety Data Sheet for instructions regarding safe handling and environmental issues.

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