

TECHNICAL DATA SHEET

DIE SLICK™ AH SERIES MINIMUM QUANTITY LUBRICANTS - WATER FREE

DIE SLICK™ AH series are a range of water free high pressure die casting lubricants designed to be used with no dilution. Products are available with and without active siloxane release agent.

Siloxane containing products are formulated with unique and innovative Smart Polymer (SP) technology, a thermodynamically reactive polymer system that forms a tough barrier on hot areas of the die, while lightly coating cooler, less demanding areas. This results in reduced solder, producing bright and clean castings and eliminates the need for over-spraying in hot die areas.

The AH series of lubricants bring significant advantages over all water based lubricants, diluted or minimum quantity products. Leidenfrost effect is eliminated leading to vastly improved die life through elimination of thermal stresses, improved lubricant film adhesion and resultant lubrication film formation, especially at hot spots.

AH series lubricants lead to much reduced cost of operation when compared to any water based solution, and help customers meet environmental targets with reduced CO² footprint.

Formulations are wax free to ensure little or no nozzle clogging and reducing die build up and maintenance.

Applications

DIE SLICK™ Products are designed to offer maximum benefits for aluminum high pressure die casting. With no cooling effect from the die spray, careful implementation water free lubrication is required, to ensure stable die temperature can be achieved. Quaker Houghton die cast experts will work closely with the customer to evaluate their existing process and optimize implementation of the AH series product.

Benefits

- Elimination of Leidenfrost effect
- Castings are bright and shiny; does not cause paint or coating problems
- Elimination of water based effluent
- Faster cycle times
- Promotes excellent metal flow, enhanced performance for complex operations

Recommendation for Use

DIE SLICK™ AH lubricants are designed to be used as-is and applied to the die face before each casting cycle. Application of the lubricant can be tailored to the specific needs of each die casting facility to ensure optimum amount of product is applied.

Quaker Houghton recommends use of one of its high specification QH FLUIDCAST™ application systems to ensure accurate control of the lubricant spray quantity, improving process consistency, efficiency and part quality and to maximize the benefits of the AH series lubricants. The QH FLUIDCAST™ MQL system comprises the spray control panel through to a universal spray head and nozzles.

Health, Safety and Handling

Please consult the Safety Data Sheet (SDS) for information on storage, safe handling and disposal. The conditions or methods of handling, storage, use and disposal of the product are beyond our reasonable control - we assume no liability for any ineffectiveness of the product or any injury or damage, arising out of or in connection with these conditions. This product has a shelf life of 12 months, and it should be stored in a tightly sealed container in temperatures between 41°F (5°C) and 95°F (35°C). Do not freeze.



DIE SLICK™ AH SERIES

MINIMUM QUANTITY LUBRICANTS - WATER FREE

Properties

The series comprises a range of lubricants optimized to specific die temperature conditions and lubrication requirements to ensure optimum lubricant film formation is achieved.

Non Smart Polymer siloxane free products are also available in this series where post casting treatments stipulate this requirement.

DIE SLICK™ AH Series

PROPERTY	AH 1	AH 14	AH 15	AH 20	AF 60	AF 80	UNIT
Appearance	Colorless	White liquid	White liquid	White liquid	Colorless	Colorless	
Odor	Mild	Mild	Mild	Mild	Mild	Mild	
Specific Gravity at 15°C	0.902	0.836	0.856	0.905	0.869	0.884	g/cc
Density at 15°C	7.527	6.976	7.143	7.552	7.252	7.377	lbs/gal
Flash Point	>200 392	>230 446	>230 447	>230 448	>= 202 396	>= 202 397	C F
Viscosity	192	5-10	10-15	100-110	92-97	150-170	cP
Boiling Point	NA	NA	NA	NA	NA	NA	

DIE SLICK™ AH K Series

PROPERTY	AH K54	AH K58	AH K70	AH K85	UNIT
Appearance	Colorless	Colorless	Colorless	Colorless	
Odor	Mild	Mild	Mild	Mild	
Specific Gravity at 15°C	0.819	0.842	0.851	0.863	g/cc
Density at 15°C	6.835	7.026	7.102	7.202	lbs/gal
Flash Point	76 169	115 239	115 239	76 169	C F
Viscosity	7-10	1525	24-28	45-50	cP
Boiling Point	NA	NA	NA	NA	

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