PERFORMANCE SHEET

CASTING OILS
QUAKERCAST™ 85 AND D-925

Background

During the open stream continuous casting process, lubrication of the mold is vital to avoid sticking of the strand to the mold. In addition, operators are looking to ensure surface quality, improve heat transfer, protect molds from deposits, minimize continuous casting fluid consumption, protect workers from fumes, odors, and flames, and increase process efficiency with higher casting speeds.

The QUAKERCAST™ 85 and D-925 series of casting fluids are products enabling higher casting speeds, lower fluids consumption, and cleaner molds as compared to traditional products. Developed with the most advanced technology for continuous casting applications, these products are formulated with a special blend of highly refined esters, base oils, and additives contributing to their excellent performance properties.

- QUAKERCAST™ 85 can be used for billet production up to 160mm x 160mm
- QUAKERCAST™ D-925 can be used for beam blank production applications

The products have demonstrated their benefits in multiple continuous casting lines in the industry and have proven much better overall result compared to traditional continuous casting fluids.

Benefits

- Higher speed casting as a result of excellent lubricating properties from superior adhesion and wetting characteristics of the fluid
- Low fluid consumption rate per ton due to a homogeneous, high viscosity lubricating film with low volatility properties
- Improved mold cleanliness & surface quality due to highly refined raw materials with high oxidation stability and low water content
- Low fuming, less flames due to low volatility and high flash point

Test Parameters

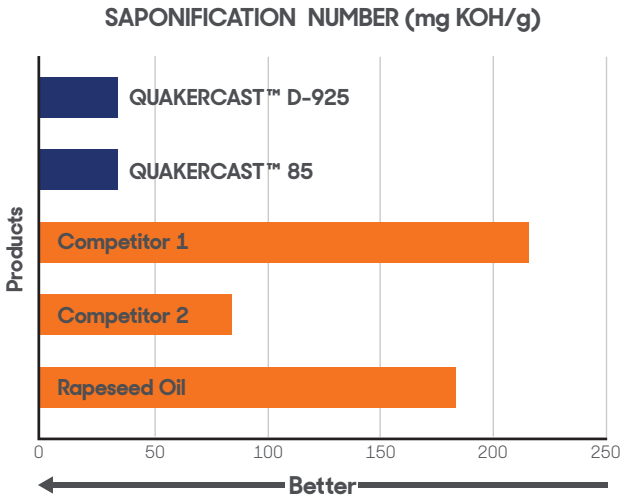
Key performance parameters to differentiate a casting oil's performance are its residual buildup, casting process speeds, and consumption rate.

HIGHER MOLD CLEANLINESS

The Panel Coking test apparatus is used to analyze the tendency of lubricating fluids to produce carbon residue. Using the FTM 791-3462 standard, 300mL of casting oil fluid was tested at 315°C, causing it to splatter over an aluminum plate for a given period of time. The amount of carbon residue deposited on the test plate is determined through weighing.

QUAKERCAST™85 and D-925 demonstrated excellent results in the panel coking test with almost no residue buildup

QUAKERCAST™ D-925 | QUAKERCAST™ 85 | RAPESEED OIL



A lower Saponification Number allows QUAKERCAST™ series of casting fluids to build less residue and provide higher mold cleanliness.

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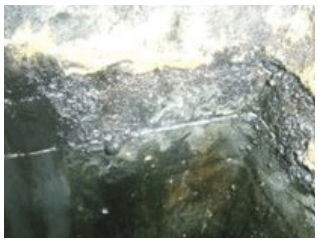
COMPARISON OF RESIDUE BUILDUP

The tendency to form residues is very high with less refined natural esters and Group I mineral oils.

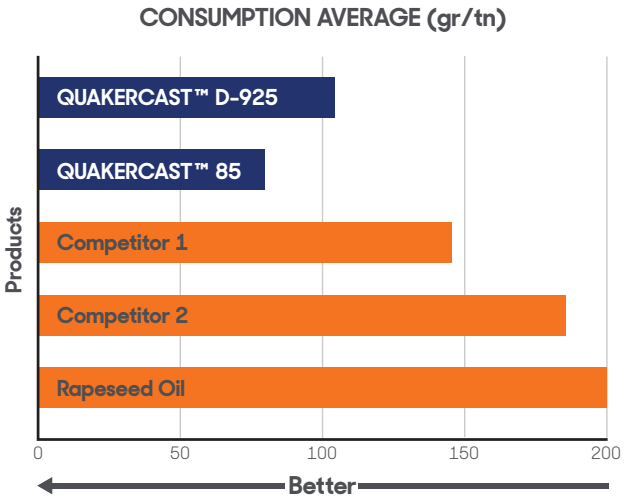


MOLD USING RAPESEED OIL – Sticky residue

MOLD USING QUAKERCAST™ – No residue

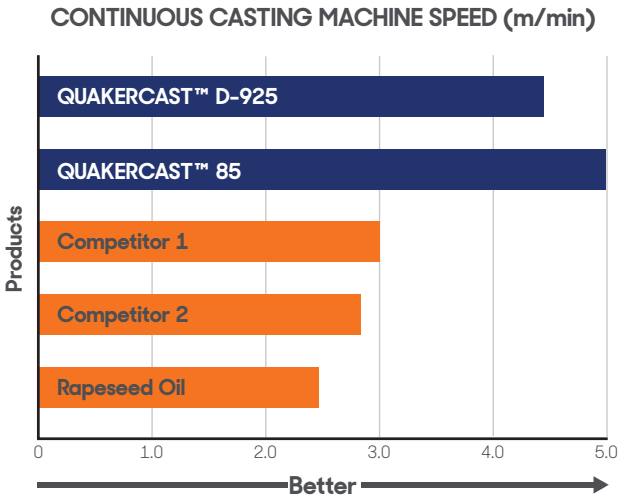
LOWER CONSUMPTION RATE

Due to a homogeneous, high viscosity lubricating film with low volatility properties, lower fluid consumption rates can be achieved.



HIGHER CASTING SPEED

Due to excellent lubricating properties of the fluid with superior adhesion and wetting characteristics, increased process speeds on the continuous caster machine can be reached.



	QUAKERCAST™ D-925	QUAKERCAST™ 85
VISCOSITY 40°C	76.96 cst	83.92 cs
VISCOSITY 100°C	10.70 cSt	12.39 cSt
VISCOSITY INDEX	125	144
WATER CONTENT	70 ppm	68 ppm
FLASH POINT	280°C	256°C
NOACK VOLATILITY AT 250°C	1.84%	5.25%
SAPONIFICATION NUMBER	38.30 mg KOH/g	36.21 mg KOH/g
POUR POINT	-24°C	-15°C

Our technical team has utilized their application knowledge and experience to develop the highest quality mold release agents to satisfy the most demanding technical requirements of casting machines.

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