











## TEST NO 2

---

Lube oil: Marine cylinder oil "PRISTA® MARINE CM 50/70 "

Components	% rate
Brst	28,75%
SN 500	49,15%
Add 1	22,00%
Add 2 PPD	0,10%
	100,00%

### DESCRIPTION OF THE TEST

As per the general procedure, described in point 4 above.

Purpose: to compare the lab results of lube oil blended through CCBL® JET with the PRISTA product specification.

Volume: 6 MT

Dosing of base oils and additives by feeding 10 cubic meter tank. Feeding the tank took 20 min.

When the feed volume reached 30 % (1,8 MT) the driving pump was switched on. The blending through CCBL® JET has started in premix mode. In parallel with mixing, dosing/feeding the tank with the rest 70 % (4,2 MT) of the volume continued. After 100% loading the tank the blending through CCBL® JET has started in main mode.

Main blending time through CCBL® JET took 20 minutes.

After completion of the mixing samples were taken from the tank.

The first sample was taken immediately after completion and the second after 30 minutes

### Operational parameters:

- Pre-mix temperature: +31.6°C
- Temperature after CCBL®: +33.8°C
- El. Consumption at CCBL®: 7.94 KWh
- Total time for dosing & blending: 40 minutes
- Volume: 6MT

### CONCLUSION

The lab results of sample 1 and sample 2 are practically identical. The marine cylinder oil was produced within the target specification, without the need for any correction measures like additional additive treatment and mechanical blending. The product can be released for further operation like drumming or deliveries in bulk.

### ATTACHMENTS

1. Certificate of analysis

### TEST No 3

---

Lube oil: MWF (Metal Working Fluid) PRISTA REZINOL HD 22

Components	% rate
SN 100	90,00%
ADD 1	4 %
ADD 2	4 %
ADD 3	2 %
	100,00%

#### DESCRIPTION OF THE TEST

Purpose: to evaluate the effectiveness of CCBL® JET for blending metal working fluid.

Volume: 3 MT

As per the general procedure, described in point 4 above.

Purpose: to compare the lab results of lube oil blended through CCBL® JET with the PRISTA product specification.

Volume: 3 MT

Dosing of base oils and additives by feeding 10 cubic meter tank. Feeding the tank took 20 min. When the feed volume reached 30 % (1 MT) the driving pump was switched on. The blending through CCBL® JET has started in pre-mix mode. In parallel with mixing, dosing/feeding the tank with the rest 70 % (2 MT) of the volume continue. After 100% loading the tank the blending through CCBL® JET has started in main mode.

Main blending time through CCBL® took 30 minutes.

After completion of the blending samples were taken from the tank.

The first sample was taken immediately after completion and the second after 30 minutes.

#### Operational parameters:

- Pre-mix temperature: +29.3°C
- Temperature after CCBL®: +31.5°C
- El. Consumption at CCBL®: 9,92 KWh
- Total time dosing and blending: 50 minutes
- Volume: 3 MT

#### CONCLUSION

The lab results of sample 1 and sample 2 are practically identical. This verifies that the CCBL® JET blending process can homogenized in full finish MWF as per the required specification.

#### ATTACHMENTS

1. Certificate of analysis

## TEST No 4

---

Lube oil: MWF (Metal Working Fluid) PRISTA EMULSOL B

Components	% rate
SN 150	78,00%
ADD 1	20,00%
ADD 2	2,00%
	100,00%

### DESCRIPTION OF THE TEST

Purpose: to evaluate the effectiveness of CCBL® JET for mixing metal working fluid.

Volume: 3 MT

As per the general procedure, described in point 4 above.

Purpose: to compare the lab results of lube oil blended through CCBL® JET with the PRISTA product specification.

Volume: 3 MT

Dosing of base oils and additives by feeding 10 cubic meter tank. Feeding the tank took 20 min.

When the feed volume reached 30 % (1 MT) the driving pump was switched on. The blending through CCBL® JET has started in pre-mix mode. In parallel with mixing, dosing/feeding the tank with the rest 70 % (2 MT) of the volume continue. After 100% loading the tank the blending through CCBL® JET has started in main mode.

Main blending time through CCBL® took 30 minutes.

After completion of the mixing samples were taken from the tank.

The first sample was taken immediately after completion and the second after 30 minutes.

### Operational parameters:

- Pre-mix temperature: +36.1°C
- Temperature after CCBL®: +38.6°C
- El. Consumption at CCBL®: 9,92 KWh
- Total time for dosing and blending: 50 minutes
- Volume: 3 MT

### CONCLUSION

The lab results of sample 1 and sample 2 are practically identical. All results show conformity with the specification limits.

### ATTACHMENTS

1. Certificate of analysis



## TEST No 5

---

Lube oil: Hydraulic oil PRISTA MHM b  
DIN 51524 part II, ISO VG 46

Components	% rate
SN 150	60,189%
SN 500	39,00%
ADD 1	0,50%
ADD 2	0,30%
ADD 3	0,008%
ADD 4	0,003%
	100,00%

### DESCRIPTION OF THE TEST

Purpose: to evaluate the effectiveness of the CCBL® JET blending process in production of hydraulic oil.

Purpose: to evaluate the effectiveness of CCBL® JET for blending metal working fluid.

Volume: 3 MT

As per the general procedure, described in point 4 above.

Purpose: to compare the lab results of lube oil blended through CCBL® JET with the PRISTA product specification.

Volume: 3 MT

Dosing of base oils and additives by feeding 10 cubic meter tank. Feeding the tank took 10 min. When the feed volume reached 30 % (1 MT) the driving pump was switched on. The blending through CCBL® JET has started in pre-mix mode. In parallel with blending, dosing/feeding the tank with the rest 70 % (2 MT) of the volume continue. After 100% loading the tank the blending through CCBL® JET has started in main mode.

Main blending time through CCBL® took 10 minutes.

After completion of the mixing samples were taken from the tank.

The first sample was taken immediately after completion and the second after 30 minutes.

Second sample was taken after 60 min.

### Operational parameters:

- Pre-mix temperature: +28.1°C
- Temperature after CCBL®: +29.6°C
- El. Consumption at CCBL®: 3.97 KWh
- Total time for dosing and blending: 20 minutes
- Volume: 3 MT

**CONCLUSION**

The lab results of sample 1 and sample 2 are practically identical. All results show conformity with the specification limits.

**ATTACHMENTS**

1. Certificate of analysis

## 5. GENERAL CONCLUSION.

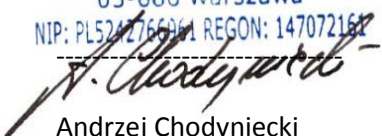
All tests show that CCBL® JET has the capability to be used as a lube blending tool. The results received during all tests fully satisfied the quality requirements of the lubricants blended, and therefore all the batches produced by CCBL® technology were released for supply to customers.

The tested CCBL® JET can be easily integrated with existing tanks, used for dosing and mechanical blending, as well as new static tanks without mechanical mixers. There is no need of heating during the mixing process. The capacity of each batch depends on max. volume of the tank. In one tank can be produced different size of batches, depending on the demand. That provides very good production flexibility, without losing effectiveness in small production batches. Time for dosing depends on the viscosity of the raw materials. Time for blending depends on the capacity of the driving pump. In general, total time for dosing and blending through CCBL® JET reduce the operational time for production up to 70%, without need of cooling down the product, before filling in different size of packages

Thanks to the innovative blending technology, the CCBL® JET unit can blend automotive, marine and industrial type of lubricants, and **achieves full dispersion and solubility of the additives in base oils, proven by the lab analysis.**

In the name of  
GQOIL Innovation Europe Sp. z o.o.

GQOIL INNOVATION EUROPE Sp. z o.o.  
ul. Topazowa 26 lok. F17  
03-686 Warszawa  
NIP: PL5242766961 REGON: 147072161

  
Andrzej Chodyniecki  
General Manager

In the name of  
PRISTA OIL HOLDING EAD



  
Emil Dimov  
Chief chemical engineer