

Premiol™ OSC 10 - Technical Data Sheet

PRODUCT INFORMATION

Premiol™ OSC10 is a non retarding, fluid loss control additive designed specifically for off-shore cementing.

Premiol™ OSC10 is an environmentally friendly aqueous solution that provides fluid loss control at temperatures up to 170F (77 deg C). The solution is 22% active.

Typical Premiol™ OSC10 concentrations range from 0.75 to 1.5 gal/sk, depending on bottom hole conditions and slurry design.

PHYSICAL PROPERTIES

- Clear liquid solution
- Specific gravity – 1.09

APPLICATIONS

- Off-shore cementing

BENEFITS

- Aqueous solution
- Fully dissolved
- High concentration with manageable viscosity
- Excellent freeze-thaw stability
- Good solution stability
- Displays desired pumpability across a wide temperature range
- Compatible with other streams
- Does not retard cement
- Functions well in temperatures up to ~170 F (77 deg C)
- Environmentally friendly
- Meets industry standards for fluid loss control agents
 - Rheology
 - Free water
 - API fluid loss

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SLURRY PERFORMANCE

Typical Performance for different slurries with Premiol™ OSC10

Test Temperature (F)	120	120	120	168	170	170
Density (ppg)	16.6	16.6	16.6	16.6	16.6	16.6
Premiol™ OSC10 (gal/sk)	0.86	0.86	0.86	0.86	0.74	0.78
API Fluid Loss (mL/30min)	14	11	22	85	64	68
Free Water (%) at Test Temperature	2	-	1.6	1.6	-	-

Slurry Design: Class H Cement + 0.5% to 1.0% bwoc Dispersant + 0.02 gal/sk Defoamer + 0.01 gal/sk Retarder

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RECOMMENDED SLURRY DESIGN

WELL CONDITION

13-5/8 intermediate liner
8,200 depth
BHST = 145 F (63 C)
BHCT = 120 F (49 C)
BH Pressure = 6,000 psi

Texas Lehigh Class H Cement
0.86 gal/sk Premiol™ OSC 10
0.625 bwoc Daxad 19
0.02 gal/sk FP-6L
3.32 gal/sk fresh water

SLURRY

Density = 16.6 lb/gal
Yield = 1.05 cu-ft/sk

Rheology

Temperature	300 rpm	200 rpm	100 rpm	60 rpm	30 rpm	6 rpm	3 rpm	PV	YP
80 °F	340	244	130	84	46	14	8	315 cP	25 lb/100ft ²
120 °F	230	154	80	48	26	6	4	225 cP	5 lb/100ft ²

Free Water

Temperature	Measured Fluid	Free Water (%)
120 °F	4 mL	1.6

Compressive Strength

Condition	Time
50 psi	7:10 (hrs:min)
500 psi	8:05 (hrs:min)
2646 psi	12:00 (hrs:min)
4604 psi	24:00 (hrs:min)

Fluid Loss

Temperature	Collected Fluid	Time	Fluid Loss
120 °F	11 mL	30 min	22cc/30-min

Thickening Time

Condition	Time	Pressure	Temperature
Initial	0 min	760 psi	80°F
Final	37 min	6000 psi	120°F

Time to 70 Bc | 4:42 (hr:min)

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RECOMMENDED SLURRY DESIGN

WELL CONDITION

9-7/8 drilling liner
 11,500 depth
 BHST = 197 F (91.6 C)
 BHCT = 168 F (75.5 C)
 BH Pressure = 9,500 psi

SLURRY

Texas Lehigh Class H Cement
 0.86 gal/sk Premiol™ OSC 10
 0.625% bwoc Daxad 19
 0.02 gal/sk FP-6L
 0.01 gal/sk Kelig 32 (50% sol'n)

0.20% bwoc sodium meta silicate
 3.32 gal/sk fresh water
 Density = 16.6 lb/gal
 Yield = 1.05 cu-ft/sk

Rheology

Temperature	300 rpm	200 rpm	100 rpm	60 rpm	30 rpm	6 rpm	3 rpm	PV	YP
80 °F	300	200	112	70	40	10	4	282 cP	18 lb/100ft ²
168 °F	138	90	46	24	16	4	2	138 cP	1 lb/100ft ²

Free Water

Temperature	Measured Fluid	Free Water (%)
168 °F	4 mL	1.6

Compressive Strength

Condition	Time
50 psi	9:01 (hrs:min)
500 psi	10:12 (hrs:min)
1234 psi	12:00 (hrs:min)
2918 psi	24:00 (hrs:min)

Fluid Loss

Temperature	Collected Fluid	Time	Fluid Loss
168 °F	30 mL	15 min	85cc/30-min

Thickening Time

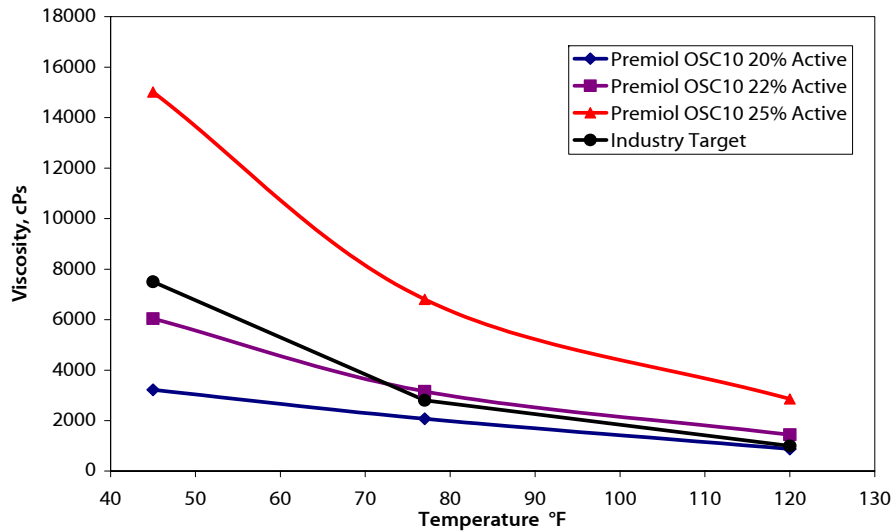
Condition	Time	Pressure	Temperature
Initial	0 min	1000 psi	80°F
Final	48 min	9500 psi	168°F

Time to 70 Bc | 3:12 (hr:min)

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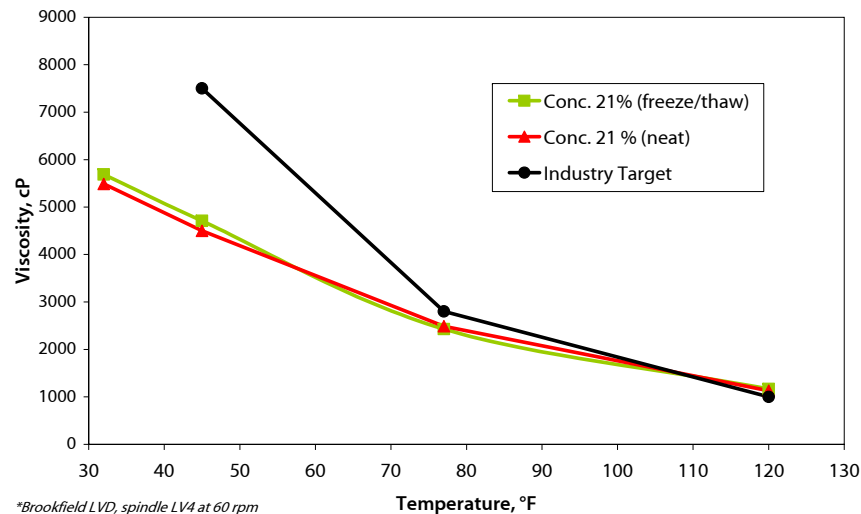
Pumpability

Viscosity of Premiol™ OSC 10 vs. Temperature



Freeze/Thaw

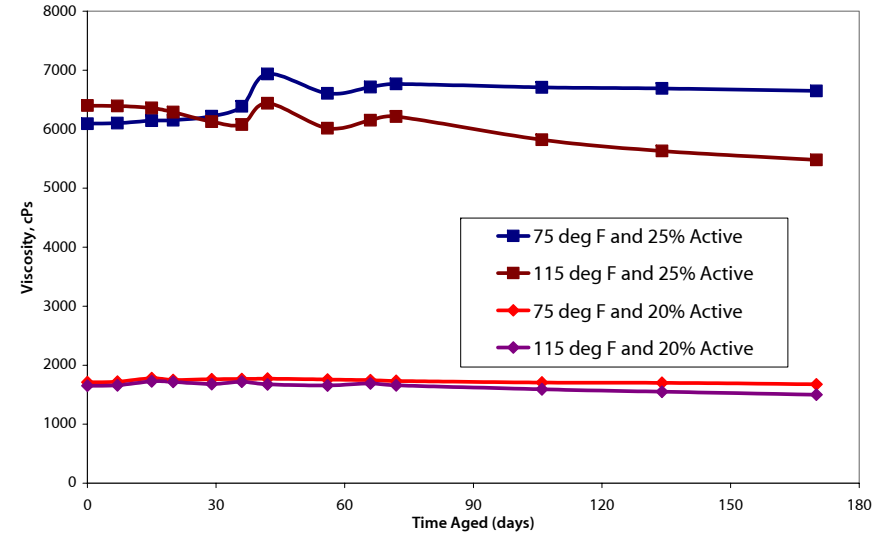
Effect of Freeze/Thaw cycles on Premiol™ OSC 10 Viscosity*



*Brookfield LVD, spindle LV4 at 60 rpm

Stability

Premiol™ OSC 10 Aging Study



Performance

- Premiol™ OSC 10 displays desirable pumpability across a wide temperature range and after freeze-thaw exposure
- Aging studies prove solution stability over time despite high concentrations
 - Premiol™ OSC 10 has an optimum shelf life of four to six months
 - Shelf life could be extended with addition of Celanese recommended biocide, KathonLX
- Premiol™ OSC 10 has excellent freeze-thaw stability

