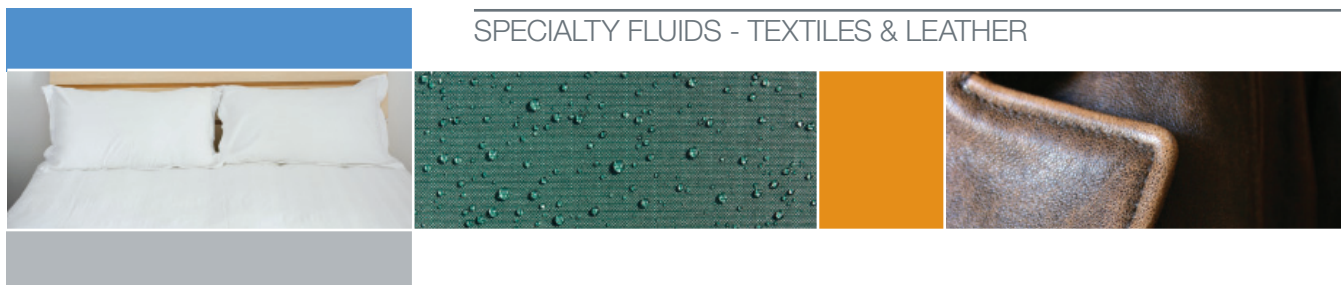


MAGNASOFT* 588TX textile softener

SPECIALTY FLUIDS - TEXTILES & LEATHER



Magnasoft 588TX textile softener, a specialty silicone emulsion concentrate, is an excellent candidate to consider for high-to mid/low-end fabric finishing. It offers multiple benefits such as quick water absorbency, moisture management, fabric whiteness, non-discoloration and - most importantly - shear stability at broad pH and temperature conditions in a finishing bath without compromising softness. These benefits are chiefly attributed to the silicone copolymer that promotes quick and uniform adsorption to fibers, in addition to reorganization of the silicone molecules on cellulosic fabric.

Using Magnasoft 588TX textile softener can result in a luxuriously voluminous touch with a comfortably soft feel on cotton and cotton blends while maintaining the hydrophilic nature of cellulosic fabrics. It can provide a cotton-like feel with hydrophilicity when applied to synthetic fabrics such as polyester and polyester blends. Its hydrophilic performance is virtually unaffected by the aging time of treated fabrics and at various dry/cure conditions typically used for textile finishing.

Magnasoft 588TX textile softener is easily water dispersible; hence, it is ready to use in a textile finishing bath. It possesses good compatibility with most typical textile finishing chemicals including organic softeners, durable press resins, anti-static agents and selected optical brightening agents.

Key Features and Typical Benefits

- Luxuriously voluminous touch with ultra-soft feel, particularly for cotton knits
- Quick water/perspiration absorbency on fabrics; limited impact of fabric aging time and high temperature curing conditions on hydrophilicity
- Water dispersible, ready to use
- Maintains fabric whiteness (non-discoloring)
- Superior stability at broad pH and temperature ranges (e.g., up to boiling at pH 4~10 range) in typical textile finishing
- Excellent shear stability in both padding and exhaustion processes, including jet finishing and over-flow finishing
- Low pour point (< -20 °C)

Potential Applications

Magnasoft 588TX textile softener may be considered for use with all types of fabrics in the textile finishing process, but can be most beneficial for cellulose fabrics such as:

- Cotton and cotton-blended knits & woven
- Viscose fabric and its blends
- Linen fabric and its blends
- Quick-drying cotton knits
- Polyester and polyamide woven requiring cotton-like feel

Typical Physical Properties

Property	Unit	Value
Appearance	-	Yellowish transparent to translucent liquid
Viscosity at 25 °C 3/12	cps	2000
Specific Gravity, 25 °C	gr/cm ³	1.0
Solid Content	%	64
pH, 25 °C	-	5.5
Ionic Characteristics	-	Slightly cationic
Suitable Diluent	-	Water

Typical properties are average data and are not to be used as or to develop specifications.

General Considerations for Use

Magnasoft 588TX textile softener is a ready-to-use emulsion concentrate; hence, it can be readily diluted with water and directly applicable to the textile finishing bath with no emulsification.

It can be applied by both padding and exhaustion, including jet-finishing and over-flow finishing. The optimum use level is subject to the type of fabric and softness required, but 10~20 g/L of Magnasoft 588TX textile softener is typically recommended.

It is best to use soft water if pre-dilution is required. If soft water is unavailable, it is prudent to test the complete bath for stability before applying it in the production of textile finishing.

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Performance Test Data

1) Whiteness on cotton woven: Magnasoft 588TX textile softener is virtually non-yellowing on bleached fabrics.

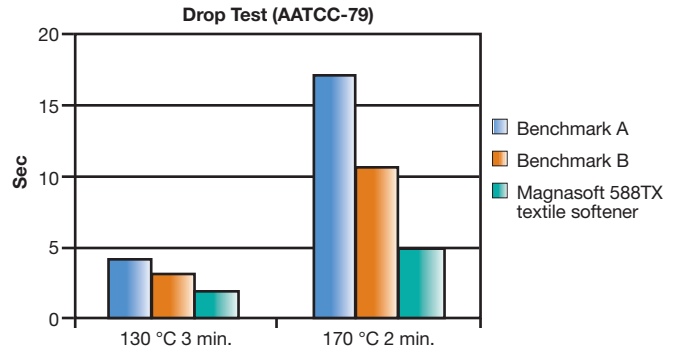
Test Conditions:

- Fabric: White cotton woven
- Finished by pad bath
- Dried at 130 °C x 3 min. and cured at 170 °C x 2 min.

	Control	5 g/L	8 g/L	10 g/L	12 g/L	15 g/L
130 °C x 3 min	73.11	73.46	73.60	73.85	73.32	73.44
170 °C x 2 min	72.21	72.34	72.87	72.38	72.37	72.62

Note: Test data. Actual results may vary.

2) Hydrophilicity: Limited impact of Magnasoft 588TX textile softener hydrophilicity against high temperature curing.

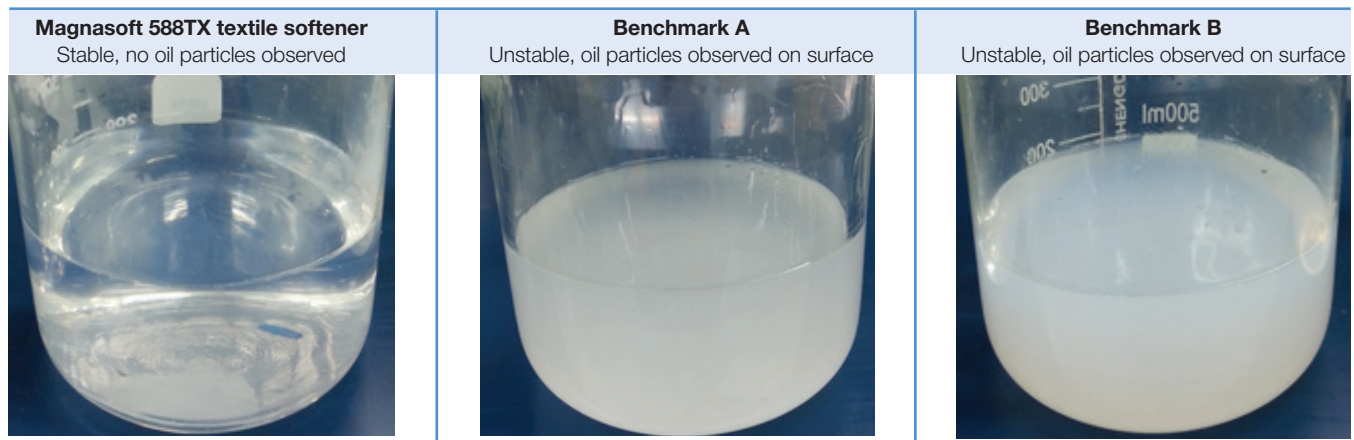


Note: Test data. Actual results may vary.

3) Shear stability: Magnasoft 588TX textile softener exhibited shear stability in both padding and exhaustion processes.

Test Conditions:

- Dosing level: 20 g/L Magnasoft 588TX textile softener
- Bath conditions: pH 12, 80 °C
- Shearing at 2,000 rpm for 30 min.



Note: Test data. Actual results may vary.

4) Emulsion stability at different bath pH: Magnasoft 588TX textile softener exhibited superior stability at broad pH and temperature ranges.

Test Condition: 20 g/L Magnasoft 588TX textile softener at varying bath pH levels

Product	Bath pH 3	Bath pH as received	Bath pH 10	Bath pH 12
Magnasoft 588TX textile softener	Stable up to boiling	Stable up to boiling	Stable up to boiling	Stable up to boiling
Benchmark A	Stable up to boiling	Stable up to boiling	Haze at 60 °C, oiling at >65 °C	Haze at 50 °C, oiling at >60 °C
Benchmark B	Stable up to boiling	Stable up to boiling	Stable up to 80 °C, oiling at >85 °C	Stable up to 80 °C, oiling at >85 °C

Note: Test data. Actual results may vary.

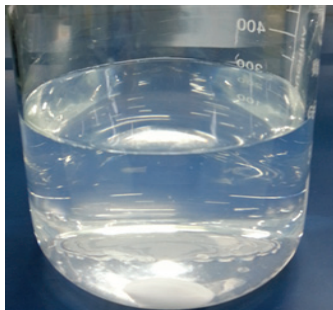
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5) Alkali & low temperature stability of Magnasoft 588TX textile softener:

Alkaline Stability

Stable at pH 12, boiling for 60 min.



Low Temperature Stability

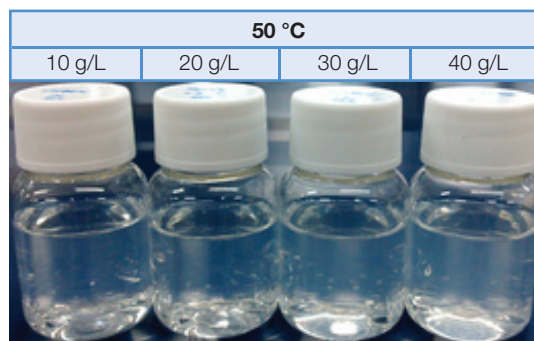
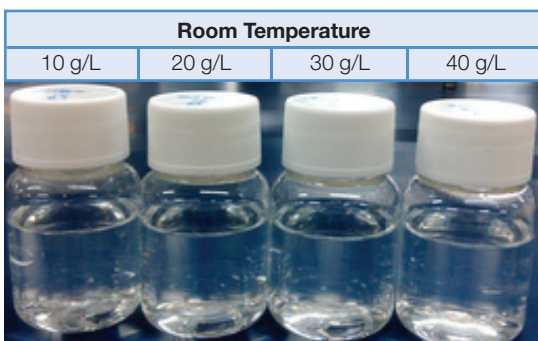
Stable at -20 °C for 30 days



Note: Test data. Actual results may vary.

6) Electrolyte compatibility in $MgCl_2 \cdot 6H_2O$: Magnasoft 588TX textile softener was compatible in a durable press system.

Test Condition: 20 g/L Magnasoft 588TX textile softener with different dosing levels of $MgCl_2 \cdot 6H_2O$ for five days



Note: Test data. Actual results may vary.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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