Technical Data Sheet

XIAMETER™ MEM-8818 Emulsion

Amino functional silicone emulsion

Features & Benefits

- Provides supersoft, smooth handle
- Provides smooth, soft feel to treated non-woven
- Very low yellowing
- Exhaustible
- Non-woven is a 35% silicone macroemulsion

Applications

- XIAMETER™ MEM-8818 Emulsion is an amino-functional silicone emulsion suitable for use on most non-woven substrates.
- It is designed to impart smooth, soft feel to non-woven substrates.
- Imparts a supersoft, smooth textured handle on all types of woven or knitted fabrics, without the expected loss of whiteness which often occurs with other amino functional silicone emulsions.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

CTM[1]	Property	Unit	Result
0176B	Appearance		Milky, white emulsion
0862A	Silicone content	%	35
0007A	pH		4.5–6.5
	Emulsifier		Non-ionic

1. CTM: Corporate Test Method, copies of CTMs are available on request.

Description

Non-Woven Applications

XIAMETER MEM-8818 Emulsion is a 35% active silicone emulsion imparting softness. The emulsion can be diluted with cold water, and is applied by padding.

Benefits

Non-Woven Applications

XIAMETER MEM-8818 Emulsion imparts smooth, soft feel to most nonwoven substrates. A panel evaluates the feel, or 'hand' by comparing treated samples with non treated references. Ratings range from 0 for the worst, to 5 for the best; values are recorded on figure 1.

Benefits (Cont.)

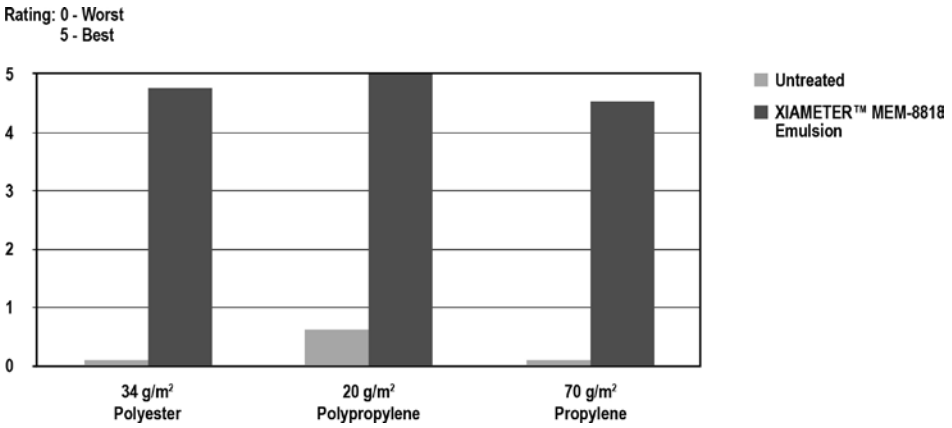

Figure 1:
Handle rating of XIAMETER MEM-8818 Emulsion

How To Use

Non-Woven Applications

XIAMETER MEM-8818 Emulsion is readily dilutable with cold water. The pH of the diluted emulsion should be kept between 4.5–5.5, if necessary with acetic acid. The diluted emulsion can be applied by padding after the web has been formed. The web should then be dried before rolling. A concentration as low as 0.5% silicone (by weight of substrate) is sufficient to achieve good softness.

Textile Applications

XIAMETER MEM-8818 Emulsion is an amino functional silicone emulsion designed as a fabric softener for all types of woven and knitted fabrics. It provides a supersoft, smooth textured handle, which is achieved without the expected loss of whiteness that often occurs with other amino functional silicone emulsions.

XIAMETER MEM-8818 Emulsion can be used alone as a supersoftener or with a crosslinker for a more durable supersoftening effect or for an elastomeric finish.

It can be applied by padding or exhaustion and can be used with common textile finish auxiliaries. The concentration of silicone required to give the desired properties will depend on the fabric construction and the fiber content of the fabric. Generally, between 10 g/l and 30 g/l pad bath concentration is recommended, or 0.2% to 1.0% on weight of fabric by exhaustion.

XIAMETER MEM-8818 Emulsion is not recommended for jet or beam dyeing.

Padding

1. Scour goods in a nonionic detergent and rinse thoroughly. Follow with an acid rinse using 2 g/l of 80% acetic acid for 5 minutes. This will neutralize any alkali residues from previous processes that may cause pad bath instability and lead to oil spots on fabrics or gel on the rollers.
2. If crease resist resins or fillers are used, dilute in the mixing tank in accordance with the manufacturers' instructions. If hot, cool to below 30°C before adding the silicone emulsion.

How To Use (Cont.)

3. Predilute the required amount of XIAMETER MEM-8818 Emulsion with an approximately equal weight of cold water and add to the mixing tank.
4. If crease resist resin catalyst is used, predilute with an equal weight of water and add to the mixing tank.
5. Top up to final volume with cold water and adjust to pH 5 with 80% acetic acid. This pH adjustment is necessary to obtain maximum softness and also helps bath stability.
6. Add 1–2 g/l of high HLB surfactant to the bath. Suitable surfactants are alcohol ethoxylates with 10–20 moles ethoxylation.

Precautions

- Start with clean mixing tank, delivery lines, pad box and rollers.
- Dilute the emulsion with cold water only.
- Do not use a high shear stirrer when making finishing liquor.
- The pH must always be below 7 (preferably in the range 4.5–6) in the pad bath.

Exhaustion

1. Scour goods in a nonionic detergent and rinse thoroughly. Follow with an acid rinse using 2 g/l of 80% acetic acid for 5 minutes. This will neutralize any alkali residues from previous processes that may cause pad bath instability and lead to oil spots on fabrics or gel on the rollers.
2. Predilute the required amount of XIAMETER MEM-8818 Emulsion with an approximately equal weight of cold water.

Suggested amount of XIAMETER MEM-8818 Emulsion in kg can be determined by using the following calculation:

$$\frac{\text{Fabric weight, kg}}{35} \times \%\ \text{silicone OWF}^{1}$$

[1]On weight of fabric

3. Using a liquor to goods ratio of 20:1 or 30:1, prepare a fresh bath of XIAMETER MEM-8818 Emulsion and adjust the pH to 4 with 80% acetic acid.
4. Over a 10 minute period, raise the temperature to 35–40°C and maintain for 20–30 minutes. Complete exhaustion will then have taken place and the solution will be clear. Figures 2–5 on the following pages illustrate the importance of temperature and pH control for effective exhaustion.
5. Hydroextract, then dry on a stenter, or tumble dry at 80°C–85°C.

Precautions

- Dilute XIAMETER MEM-8818 Emulsion with cold water only.
- The pH must always be below 7 (preferably in the range of 4–6) in the bath. High pH will give poor exhaustion.

ATTENTION: Sample formulations are provided for illustrative purposes only. Dow does not warrant their merchantability, fitness for use, performance, efficacy, safety or freedom from patent infringement. They are not commercial formulations and have not been subjected to extensive testing. It is your responsibility to thoroughly test any formulation before use.

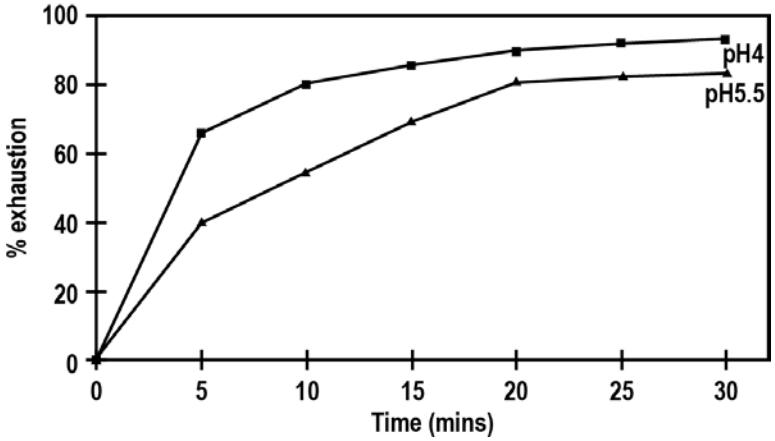

Figure 2:
Exhaustion of XIAMETER MEM-8818 Emulsion onto cotton knit at 40°C

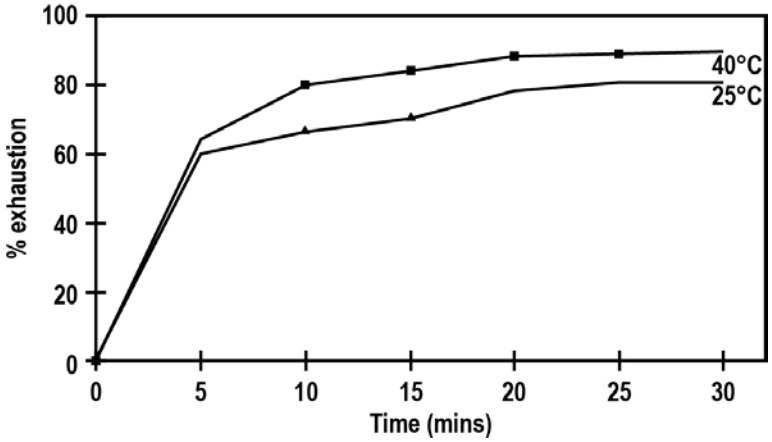

Figure 3:
Exhaustion of XIAMETER MEM-8818 Emulsion onto cotton knit at pH4

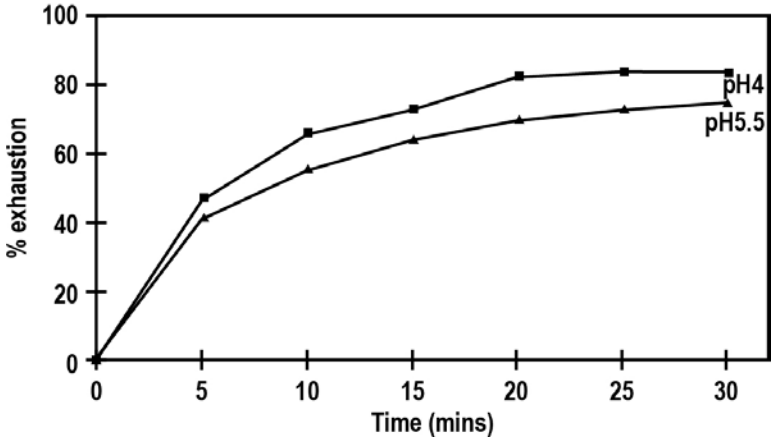

Figure 4:
Exhaustion of XIAMETER MEM-8818 Emulsion onto Polycotton (65/35) at 40°C

How To Use (Cont.)

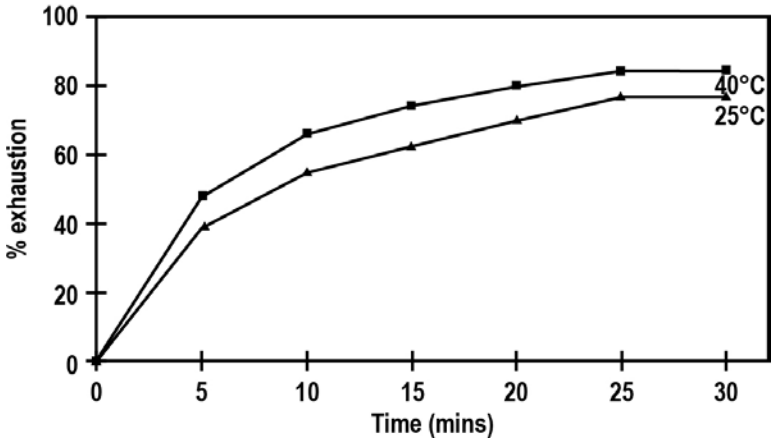

Figure 5:
Exhaustion of XIAMETER MEM-8818 Emulsion onto Polycotton (65/35) at pH4

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

A small creaming effect can occur on top of this product, but it has no effect on the particle size. It will disappear when pumping or mixing the product.

Usable Life And Storage

Non-Woven Applications
Product should be stored at or below 35°C (95°F) in original, unopened containers.

Textiles Applications
Product should be stored at or below 0°C (35°F) in original, unopened containers.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Not intended for human injection. Not intended for food use.

Health And Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

http://www.xiameter.com

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