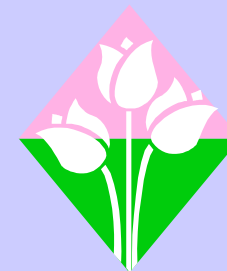




P A R A D I S E

SILTEX
Amino Functional Silicones
for
Textile Finishing





P A R A D I S E

SILTEX amino functional Silicones for Textile finishing

The treatment of textiles with substances that modify their surface properties has been common practice from the most ancient times. The use of vegetable dyes for coloration, or starches to impart stiffness, use of animal or vegetable fats and oils to impart flexibility, water repellence and softness were used commonly.

The textile industry has placed an ever increasing demand on textile finishers to produce higher quality fabrics with special aesthetic properties. One of the families of finishes that contribute to textile aesthetics is textile softeners.

In an ongoing effort to improve the softness properties, either with respect to permanence or feel, many chemical modifications have been carried out, and it is common to find fattyesters, amines, ethoxylates, amides, cationic, anionic and quaternary functionalised products in daily use.

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In more recent years the notion of higher performance or "Premium" softeners has emerged, which places greater importance on the role of a softener to improve the solidity and wear properties of the treated fabrics, as well as the comfort characteristics, within today's stringent competitive economic environment.

Silicones fulfil the major part of these requirements, for a number of reasons:

Due to their efficiency even at low levels, they are applied at lower concentrations than other softeners.

Due to the "rich" hand obtained with silicones they are able to impart acceptable softness to fabrics made from cheap, short fibre, open end spun yarns, again making them price competitive.

Due to excellent surface and lubrication effects they resist abrasion and thus are able to prolong fabric life.

They enhance characteristics imparted by mechanical finishing and produce fabrics with better easy care properties and comfort.

Silicones are known to provide the following advantage to the fabric:

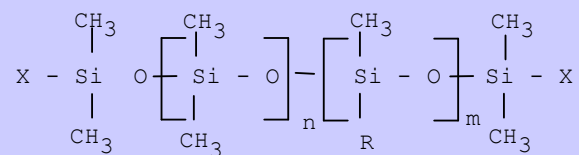
- ☀ Soft , silky handle
- ☀ Good fabric drape
- ☀ Anti pilling
- ☀ Elastomeric finish
- ☀ Crease recovery

Silicones have long been considered to be capable to impart an excellent soft, slick handle to the fabric's surface. With the development of amino functional silicones (amino silicones), a luxurious handle is also imparted to the fabric.

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The real advantage of Silicones came to take affect when modifications that had earlier been performed on fatty chemistry, now started to be performed on poly-dimethyl siloxanes.

Figure 1. General Schematic diagram of a Functionalised Silicone



After the success of our existing range of Amino functional Silicones, we introduced new products which can satisfy the higher expectations of the customers.



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The introduction of our Emulsions based on Amino Silicones some years back - SILTEX R-33101, SILTEX R-33112 - was based on the concept of importance of particle size.

The particle size of Silicone Emulsion is important to the degree of fabric softness, shear and thermal stability. These products of extremely low particle sizes – MICROEMULSIONS – can penetrate deep into the fibre bundle giving a luxurious soft handle with drapability.

There are some products in the market, which provide a soft and silky handle, but at the same time, they also cause in the increase in the degree of discolouration. The consequence is that white, light or medium colour dyed fabric will appear yellow and off shady.

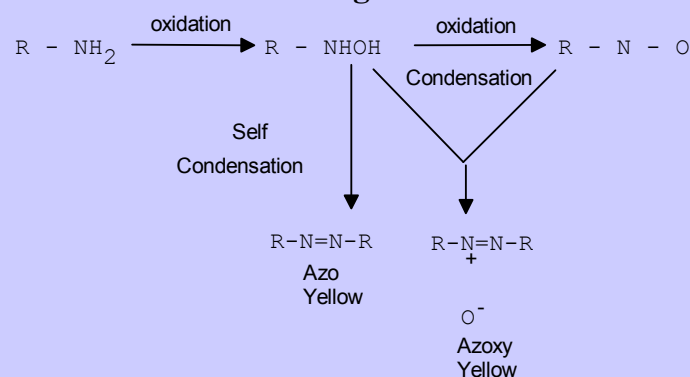
A number of softeners in the market claim to be non-yellowing, but they either fell short of Softness or they impart yellowing to the fabric.

SILTEX amino functional Silicones for Textile finishing

In the case of amino compounds the yellow discoloration is mainly due to the oxidation of amino radicals in the presence of air and heat and/or light energy.

More specifically the result of this oxidation is the formation of azo and azoxy compounds (2 + 8):

Figure 6.

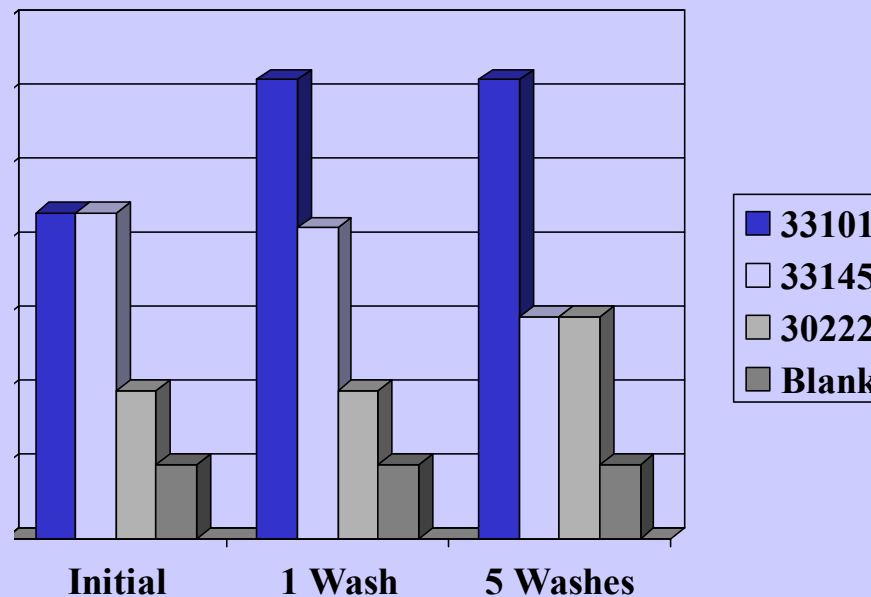


We have a product in our range “SILTEX 33145 “ which is ‘NON YELLOWING ‘ and provides a LUXURIOUS, SOFT and SILKY handle. Our product is absolutely non-yellowing at normal application time and temperature parameters.

A mechanism exists to overcome yellowing, without losing softness, as well as gaining the reduced hydrophobicity that had previously been observed in other kinds of Amines in the market.

**Comparison between the
SILTEX amino functional Silicones**

Softness wash resistance

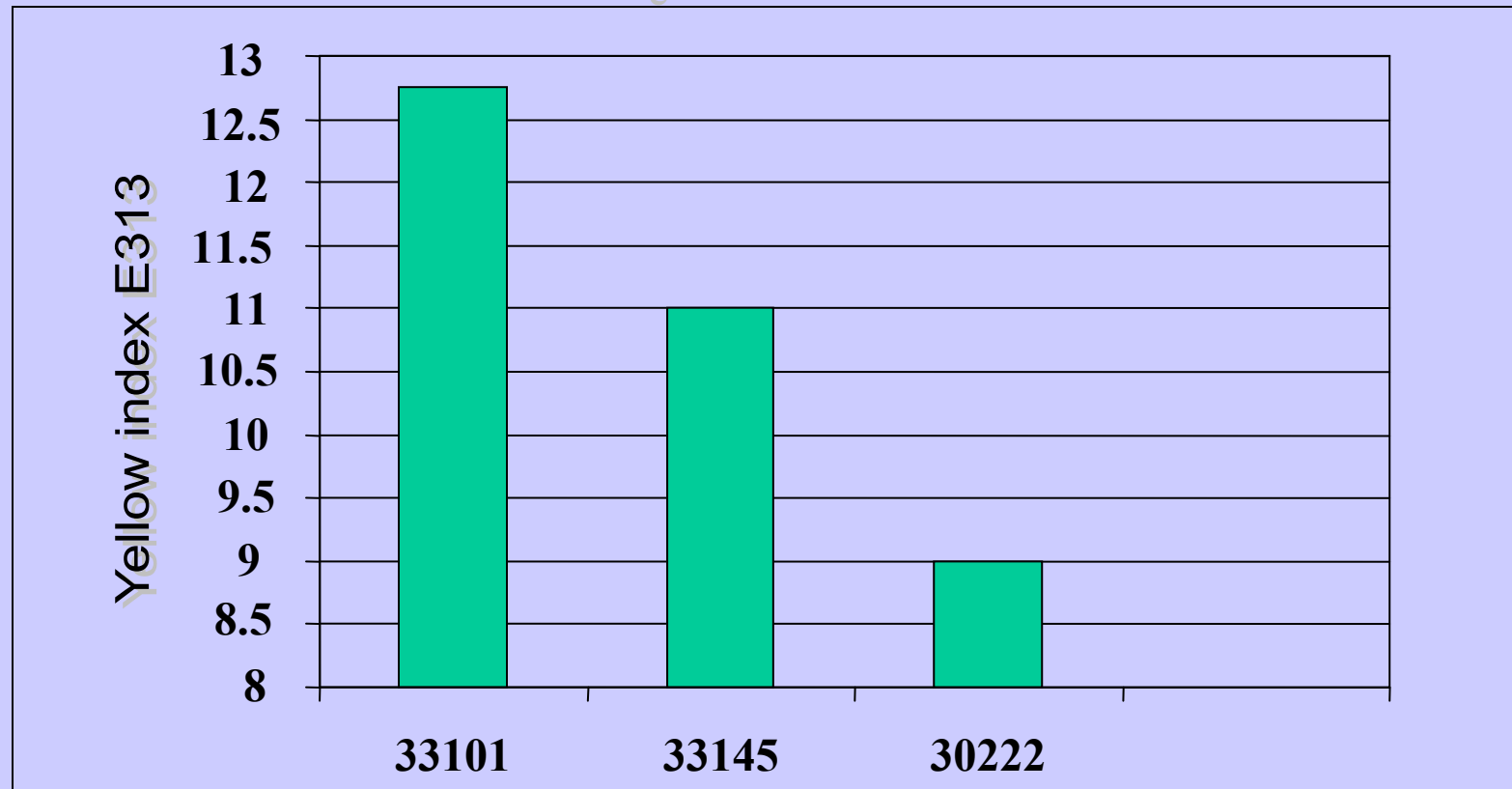


Softening is evaluated by a panel of people who make a ranking of the samples with the highest ranking showing the softest product

	Initial	1 Wash	5 Washes
33101	22	31	31
33145	22	21	15
30222	10	10	15
Blank	5	5	5

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Yellowing after 9 min at 150⁰C



**Comparison between the
SILTEX amino functional Silicones**

