

How to Soften Nylon

Applicable Softeners for Nylon

- **Orcosoft TXN™** non-durable/non-ionic for continuous applications
- **Orcosoft NQ 320/150™** non-ionic/non-quaternary
- **Orcosoft NP™** polyethylene type

Orcosoft TXN™

For continuous applications, **Orcosoft TXN™** is a recommended softener for Nylon. **Orcosoft TXN™** is a nonionic, non-durable softener which is applicable as a pure finish, a softener in resin formulations, and as a napping aid. It is recommended for use on all natural and synthetic fibers.

Orcosoft TXN™ imparts a soft, full-bodied hand to all yarns and fabrics and in addition provides lubricity and protection against static. It causes no color reversion or yellowing of whites after aging and resists scorching at normal processing temperatures. **Orcosoft TXN™** will not adversely affect the light fastness of dyed goods. **Orcosoft TXN™** is non-chlorine retentive, thus it is particularly suitable for use with crease resistant resins. It improves abrasion resistance, tear strength, and sewability without detracting from wrinkle recovery. Because it is chemically nonionic, **Orcosoft TXN™** is compatible with most of the conventional finishing agents.

- For application as a pure finish or napping aid on the quetch or mangle, the use of 6-12 lbs of **Orcosoft TXN™** per 100 gallons of water is recommended.
- When applied in conjunction with crease resistant resins, use 8 lbs of **Orcosoft TXN™** per 100 gallons of padding liquor. This amount may be varied to suit the particular fabric and the degree of softness desired.

Orcosoft NQ 320/150™

Orcosoft NQ 320/150™ is a unique cold-water dispersible cationic softener, lubricant, and anti-static agent which produces an unusually smooth, soft hand on synthetic fibers and cotton. Being a non-quaternary type softener, **Orcosoft NQ 320/150™** offers less effluent problems than comparable type softeners, and can be applied to all natural and synthetic fibers by exhaustion, pad, or spray methods.

For the following procedures, please note all percentages listed are for **Orcosoft NQ 150™**. If **Orcosoft NQ 320™** is being used, halve all suggested amounts.

- *For acrylic, polyester, nylon, and blends* use 1-2% owf **Orcosoft NQ 150™** in the final rinse at 70-90°F(21-32°C). Run for 5-10 minutes. On package work, rinse away anionic detergents before applying the softener. In exhaustion onto synthetics, more uniformity results at lower than at higher temperatures and with the pH adjusted to about 6.0 with acetic acid. As a result, treated fibers exhibit superior drying, picking, spinning and knitting properties.
- *As a napping assistant* 3.0-5.0% owb can be padded onto the fabric or 1.0%owf may be run in the dyebath to impart a soft, high pile.
- Many optical whiteners are compatible with **Orcosoft NQ 320/150™** in the same bath.

Orcosoft NP™

Orcosoft NP™ is a polyethylene type fabric softener in liquid form for easy dispersion in either hot or cold water. This softener contains no free waxes, has good resistance to scorch yellowing, has no adverse effect on light-fastness and will actually improve fabric tear strength. **Orcosoft NP™** is one of the most durable softeners available and provides a smooth hand without the *greasy* feeling.

As a Resin Finishing Additive various melamine, urea, and glyoxal resins on 100% cotton and polyester/cotton not only create a harsh hand, but also lower abrasion resistance and tensile strength of the cellulose. By using **Orcosoft NP™** these properties are improved without any appreciable impairment of shrinkage or crease recovery.

The Sewability of the aforementioned resins also causes problems for the converters who have to sew this material since the resin acts as a friction agent and causes high heat problems during sewing, thus needles become dull and clogged with this material. The use of **Orcosoft NP™** prevents this buildup because of its lubricating action which allows the needle to pass through with negligible friction.

For Stain Release Fabrics most stain release agents consist of either acrylic or fluoro-carbon finishes which also cause needle clogging problems which can be remedied by the use of small percentages of **Orcosoft NP™**.

In Pigment Padding and Printing many of the acrylic emulsions being used for pigment binding are fairly soft, but the hand becomes fairly harsh when loaded with high amounts of pigments. The use of 1.0 to 2.5% owb of **Orcosoft NP™** will provide a softer more natural hand with little or no effect on fastness unlike most cationic and nonionic fatty type softeners. Being nonionic, this product is compatible with most systems.

In resin finishing of 100% cotton 1.0 to 3.0% owb **Orcosoft NP™** can be added directly to a cold or hot bath to recover part of the lost fiber strength and improve sewing properties.

On 100% Polyester use 0.5 to 1.5% owg **Orcosoft NP™** to improve sewing properties of polyester without leaving a "waxy" hand.

Blends of polyester and cotton when treated with **Orcosoft NP™**, show improved strength and abrasion resistance. When used in conjunction with resin finishes, this softener will reduce or eliminate resin buildup on sewing needles.