



OWR Guard 3500

1) Product character

- 1.1) Fluoro – Oil & Water Repellent
- 1.2) Optimum water & oil repellency to textiles of all fibers
- 1.3) High resistance to laundering & dry cleaning
- 1.4) Excellent anti soiling effect with good durability
- 1.5) Wide application with extenders and cross – linkers

2) Properties

Appearance	White to slightly yellowish liquid
Main component	Fluoro Polyacrylate
Ionicity & pH	Refer safety data sheet for each item
Dilutability	Readily miscible with cold or warm water
Compatibility with Nonionic products Cationic products Anionic products	Good Good Depends on Ionicity of OWR Guard 3500
Aggregate	Mainly padding, slop-padding, spray method and in foam application in some cases.
Mechanical/ Thermal	Good mechanical & thermal stability
Influence on colored goods	Does not normally impair either the shade or fastness properties of the dyeing.
Shipping & storage	Non – red label. Non – flammable material. 10-12 months in proper condition (5 – 35°C)

3) Application

- 3.1) **OWR Guard 3500** produces a highly efficient oil and water repellent film on the fiber surface without influencing the breathing properties of the material. So the soiling liquids can no longer wet out the material.
- 3.2) **OWR Guard 3500** is suitable for permanent oil and water repellent finishes on articles of all cellulosic (cotton, viscose), synthetic fibres (polyester, nylon), wool and their blends including protective work wear, rain wear, uniform fabrics etc.
- 3.3) **Preparation of the goods**

Keep the goods free of surfactants. Residues from previous processes, e.g. lubricants, spin finishes, softening agents and dyeing auxiliaries should be removed by thorough rinsing or by washing with an anionic surfactant followed by rinsing.



3.4) Liquor Formulation

If synthetic resin or other products are to be applied at the same time, they should be pre dissolved in the water. When fugitive wetting agent (such as isopropyl alcohol or isobutyl alcohol) is used, it is essential that the alcohol must be thoroughly dissolved and diluted before other bath components are added.

3.5) Application amount: IN padding

OWR Guard 3500	For normal application	Higher quantity on thick fabrics of woven	For superior effect & durability
Polyester	10 – 30 gpl		40 – 60 gpl
Polyamide	15 – 30 gpl		40 – 60 gpl
Cotton, wool	20 – 60 gpl		60 – 100 gpl
PES/Co, PA/Co	20 – 60 gpl		50 – 80 gpl

More additions of **OWR Guard 3500** improve the water/oil repellency & their resistance to laundering. Also apply higher quantity on thick fabrics of woven.

3.6) Melamine/ glyoxal resin & their catalyst

On synthetic fibers or their blends, proper addition of melamine resin & its catalyst may improve the durability to washing; e.g. 20 – 30 gpl of melamine resin & 2 – 3 gpl of its catalyst (ammonium chloride). On cellulosic goods, co-use with glyoxal resin & its catalyst can be also suitable. However, excessive use can impair the handle.

3.7) Treatment condition

3.7.1) padding

Padding	Pick - up	Pre - drying	Curing
1 dip – 1 nip	Nylon, Polyester	160°C X 30 sec	180°C X 30 sec
	PES/Co, PA/Co	150°C X 1 min	170°C X 1 min
	Cotton	140°C X 2 min	160°C X 2 min

pH condition : Keep pH 4 – 5 with acetic acid
Pick up ratio : according to the type of fiber

3.7.2) Pre - drying & curing

The temperature and time written above is the best condition for modern m/c.



To use in old type m/c or in harsh condition, following also can be a reference;

Pre-drying : 90 – 110°C X 3 – 2 min
Curing : 150 – 160°C (minimum 135°C above) X 2 – 1 min

The curing time depends on temp. , material, weight of goods & curing unit:

The higher the temp., the shorter the curing time, e.g. 15 – 90 seconds at 190 – 160°C.

*Higher curing temperature gives better effect on washing fastness.

4) Safe use and handling

Good hygienic and industrial practices should be followed and, when employed as recommended, **OWR Guard 3500** will not present any hazard. However, prolonged skin contact with the neat product should be avoided and any splashes on the skin should be washed off with water.

The information herein is, to the best of our knowledge, correct and complete. It is based not only on the work in our laboratory but also on the reported results of other workers in this field. It is offered without guarantee of specific properties and no patent liability is assumed. No liability can be accepted for any loss, injury or damage resulting from its use.