

“COMFORT RIDE”



OUTLAST TECHNOLOGIES LLC.

A group company of Natroyal Group has tied up with OUTLAST TECHNOLOGIES LLC. to develop a state-of-the-art product for the Indian Market providing ...

UNIQUE CLIMATE REGULATION



The Origin

- Outlast technology was originally developed for NASA to protect Astronauts in space from temperature fluctuations.
- Outlast has the broadest range of Phase Change Material (PCM) textiles in the market offering smart solutions as the global leader.
- Outlast technology is the only PCM that carries the Certified Space Technology Seal. Worldwide, there are today only 40 companies that have received this award.
- Outlast products are the only textile application to also carry the honored induction into the Space Hall of Fame.

The Technology

- Patented Outlast technology enhances textiles by providing the benefit of proactive temperature regulation that manages heat and moisture in many textiles.
- Outlast technology absorbs, stores and releases heat for optimal thermal comfort.

The Benefits

- Not too hot, not too cold, but just right. Outlast temperature regulating textiles adjust to the skin's microclimate and offer more comfort through proactive heat management. When you manage temperature, heat and moisture you can feel just right, you can feel the Outlast difference.
- Active temperature regulation.
- Less overheating / Less Chilling.
- Less perspiration.
- More comfort.

COMFORT RIDE

- Comfort Ride is developed by using Outlast Phase Change Material along with various other reflective pigments, additives, lacquers, anti-fungal agents, stain resistant chemicals etc.
- Being parked outside, the PVC Seat Covers absorbs very high heat and therefore PVC Car Seat Covers exposed to sunlight becomes very hot (temperatures as high as 85 – 90 °C) whereas the ambient temperature is around 42 - 45 °C
- Generally in Air Conditioned Cars also, people first sit and then start the AC but when the person sits and the body touches the hot PVC Leathercloth, the heat of PVC Leathercloth is transferred to the body and sweat starts forming even in AC Cars.

COMFORT RIDE

- When the person sits on the hot PVC Seat Cover, the heat transfers to the person. The body temperature is generally at 37 °C. If the temperature of the body goes up, then the body perspires. The sweat reduces the temperature of the body but decreases comfort. It is difficult to wipe the sweat.
- Due to sweat, hygiene is also one of the problem. There are cases of skin diseases.

COMFORT RIDE FOR STEERING WHEEL COVER & SEAT COVERS – A SOLUTION

- After 2 years of Research & Development since 2009 – 2011, this product has been developed.
- The product has special Additives which reflects the heat by special heat reflective pigments. This results into the reduction in temperature of the exposed Leather Cloth.
- The product is incorporated with Phase Change Material (PCM Technology) which reduces the sweat by controlling the microclimate of the body. This technology was developed for the first time by a company called “**Outlast**” for **NASA** and now it is used by them in various products & applications.
- The product also has special other Additives and Lacquers which makes the seat cover scratch & damage resistant.
- The product is also developed with stain resistant and anti-squeak properties.

Test Report

Sr.No.	TEST		UNIT	SPECIFICATION (AS PER SES N 3299)	COMFORT RIDE (AS PER SES N 3299)
1	Thickness	-	MM	Report	0.83
2	Weight	-	gsm	Report	505
3	Breaking Strength	Warp	N/3Cms	147 Min.	203
		Weft		102 Min.	131
4	Extension @ Break	Warp	%	20 Min.	93
		Weft		130 Min.	138
5	Const.load elong.	Warp	%	5 Min.	49
		Weft		20 Min.	99
6	Residual strain	Warp	%	4 Min	10
		Weft		15 Min	27
7	Tear Strength	Warp	N	9.8 Min.	33
		Weft		9.8 Min.	30
8	Ply Adhesion	Warp	N/3Cms	9.8 Min.	25
		Weft		9.8 Min.	24
9	Bursting strength	-	Mpa	0.6 Min.	0.73
10	Colour Fastness to Rubbing (Class)	Dry		Class 4 or Higher	Class 5
		Wet			Class 5
11	Tackiness	-		No defects allowed on Covering	No Tackiness
12	Volatile loss	-	%	30 OR Less	1.83%

13	Low Temp. Resistance -20°C	Warp		No Cracks Allowed	No Cracks Observed
		Weft			No Cracks Observed
14	Heat shrinkage	Warp	%	5.0 or Less	0.0
		Weft	%	5.0 or Less	0.0
15	Immersion Shrinkage	Warp	%	5.0 or Less	0.0
		Weft	%	5.0 or Less	0.0
16	H2S Resistance	-		Class 5	Class 5
17	Wear Resistance(Taber)	-		Class 3 or Higher	Class 3
18	Non Flammability	-	mm/Min.	80 Max.	12
19	Heat ageing Resistance @ -15±2°C	Warp		No Cracks Allowed	No Cracks Observed
		Weft			No Cracks Observed
20	Seam Strength	Warp	(N/50mm)	196 Min.	248
		Weft	(N/50mm)	147 Min.	193
21	TEMP. DIFF. (as per ASTM D 4803-97 (2002))		°C	-	19°C
22	Stain Resistance (as per CFFA - 141)			-	Rating 3

Comfort Ride

The use of Phase Change Product

- When the car is parked outside and due to the hot conditions, the PVC Leathercloth for the seat cover and for the steering wheel heats up. The heated Leathercloth tends to pass the heat to the body, which increases the temperature of the body and thus sweat is formed. The use of this Phase Change Material will absorb the body heat and reduce the sweat formation.
- The use of normal Leathercloth results into sweat in summer and the seat becomes very uncomfortable and sticky to sit.
- The ASTM D-4803 test shows 19°C between normal leathercloth and Comfort Ride. However due to ambient temperature, humidity and other factors, the difference is reduced. When the ambient temperature becomes higher beyond 40°C plus, the normal Leather Cloth in car has temperature of 85°C (which can be measured by gun) then the Comfort Ride will be around 72°C, this is because of reflective pigments and various other ingredients.

Comfort Ride

Stain Resistant Properties

- In addition to the standard stain resistant properties as mentioned in the specification, the product is developed with additional stain resistant properties.
- It has been observed that there are various types of stains which affects the PVC Leathercloth used such as Ball Pen Inks, Tomato Ketchup, Turmeric, Tea & Coffee stain etc.

Use of Plasticizers and Speciality Lacquers

We have used speciality Plasticizers in addition to the regular phthalates. The use of this speciality plasticizers increases the life of the product as the surface tends to remain uncracked due to reduced volatility of Plasticizers.

Comfort Ride

Extension at Break

As per the normal terms of specifications, the difference between the warp and weft % are very high while it is reduced in the Comfort Ride Product.

When the differences are minimized between warp and weft, it gives better **contour and shape.**

Mildew Resistance

Use of mildew resistance chemicals protects the leather cloth from fungus growth

USP of Comfort Ride

- **R & D, QUALITY CONTROL** : *Comfort Ride* seat covers has gone through a series of tests for Heat Reduction, Scratch and Stain Resistance, Anti fungal tests and flexibility tests resulting in longer life.
- **COMFORT / HEALTH** : *Comfort Ride* seat covers absorb less heat and keeps the seat around 12⁰C cooler, depending on temperature and humidity conditions.
- **SWEAT CONTROL** : *Comfort Ride* seat covers uses **Phase Change Material (PCM) Technology** - first time used in Leather Cloth. The PCM regulates temperature of the body that is in contact with the seat, considerably reducing sweat. This provides more comfort and hence better concentration while driving / riding.

USP of Comfort Ride

- **DURABILITY / LONGLASTING:** *Comfort Ride* seat covers lasts at least five times longer than an ordinary seat cover and comes with 3 years warranty. This warranty covers cracking, tearing, fraying, peeling and stitching.
- **DAMAGE RESISTANT:** *Comfort Ride* seat covers are scratch resistant and can not be torn, scratched or damaged easily.
- **HYGIENE :** *Comfort Ride* seat covers does not facilitate the growth of fungus during monsoon which otherwise may lead to severe fungal infections and other disorders on contact with the body

Warranty Guide

1. What is Covered and For How Long?

The 3 year limited warranty means that for 3 years from the date of purchase :-

- Will not rip, tear or crack from normal use
- Will not fade or discolor from heat, sunlight or moisture
- Will not have manufacturing defects
- Will retain its heat management properties

2. What Will Company Do If Any Of The Above Happens?

- If any of the above happens within the warranty period specified above, we will furnish comparable Leather cloth of similar color, pattern, and quality, either repair the defective area or do the replacement of the seat cover, at our option.

Warranty Guide

3. What Is Not Covered By This Warranty?

- Damage caused by fire, flooding, or intentional abuse.
- Damage caused by cutting from sharp objects.
- Installation-related damage.
- Installation defects.
- Damage caused by abuse such as seat cover bitten off or scratched by animals/birds.
- Damage caused due to cuts formed by external (buttons, studs, embroidery, etc. on the garments) or internal (fiber plate) sharp objects whether intentional or not.
- Damage caused by defect or tearing of the PU foam.
- Damage caused by use of heavy solvents & detergents.

4. What Is Excluded From This Warranty?

- The company excludes and will not pay incidental or consequential damages under this warranty.

THANK YOU !!