

Neogreene collection details

Neogreene is the GreenSmart trade name for the collection of products made from a proprietary formulation of thermoplastic elastomer foam. TPE foams provide the unique physical properties of traditional rubber foam products but with the processing efficiency of plastics.

TPE plastics have long been used in automotive, electrical, and toy industries however a TPE foam suitable for sportswear application had yet to be introduced. Our neogreene formulation has been modified to also match the Shore A value (a hardness test method) similar to SBR, rubber, and CR neoprene foam. This modification opens up the opportunity to offer the performance and environmental benefits of neogreene for bags.

Environmental

Aside from the compression and elastic benefits of neogreene, it first offers a clear environmental advantage in comparison to neoprene and rubber foams.

Neogreene is considered Toxic-Free because there are no phthalates, VOCs, chlorine, nor metals that are traditionally comprised in neoprene (see reports on this page). Neoprene is also vulcanized in production while neogreene is not. Neogreene can, at the raw material level, be reformed and reused.

Specific to neoprene, neogreene consumes 25% less energy to manufacture and 25% less petroleum to produce. These two comparisons are conservative relative to the assorted manufacturing techniques and chemistries found for chloroprene/SBR rubber, etc. all considered neoprene in the market. In many cases the environmental benefit of neogreene is substantially higher than this data for many versions of neoprene offered in the marketplace.

Water-Based Lamination

Neogreene packages (foam plus the fabrics glued to it) are only constructed using water-based adhesives. This eliminates the dependence on solvent based adhesives, which generally contain toluene and dimethyl formaldehyde. No neoprene supplier, that we have found, has yet to find an alternative lamination method for fabrics to neoprene rubber other than solvent based adhesives. In many cases, it is these adhesives that contain the VOCs which off-gas the distinctive odor popularly associated with neoprene.

Lightweight

Since TPE Foams are injected with Hydrogen in the foaming process, it results in a material 50% lighter than neoprene by volume. This benefit appears in the transportation costs of neogreene vs. neoprene.

Durability

TPE foams were first created to replace rubber in automotive applications because of its high-resiliency to both extreme hot and cold conditions. This resilience allows for neogreene to provide a greater range of temperatures where it will continue to provide cushion and elastic properties.

Insulation and waterproof claims

Neogreene has a closed cell structure similar to neoprene (sponges are open cell foam). Neogreene has a superior Clo Value to that of neoprene. The Clo Value is a measurement of intrinsic thermal resistance. Neogreene provides approximately double the insulation properties of traditional neoprene. The closed cell structure makes neogreene fully waterproof.

Hygienic

Because neogreene is a closed-cell structure it does not absorb water. This benefit means that when the laminated fabrics get wet, it is the fabric that dries, not the entire package, as a sponge with fabric would, eliminating the potential for mold or mildew to form in a wet foam layer.

Chemical Laboratory - Kao., SGS Taiwan Ltd.

TEST REPORT

GREENSMART

13068 MADRONA LEAF CT., GRASS VALLEY, CA 95945

REPORTNO.KE/2009/61539R1

DATE:2009/06/24

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THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED AND IDENTIFIED BY/ON BEHALF OF THE CLIENT AS :

SAMPLE DESCRIPTION	: NEOGREENE.
COLOR	: BLACK/GREEN/BLACK.
STYLE/ITEM NO.	: NEOGREENE PACK.
MATERIAL COMPONENT	: POLYESTER+TPE+POLYESTER.
SAMPLE RECEIVED	: 2009/06/11.
TESTING PERIOD	: 2009/06/11 TO 2009/06/18.

--- PLEASE SEE THE NEXT PAGE FOR TEST RESULT(S) ---

Katherine Ho / Asst. Manager
Signed for and on behalf of
SGS Taiwan Limited

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TEST RESULT(S) :

TEST ITEM(S)	UNIT	METHOD	MDL	SPEC	RESULT	CONCL.
POLYVINYLCHLORIDE(PVC)***	%	BEILSTEIN'S TEST & INFRARED ANALYSIS	10	<10	n.d.	PASS
PENTACHLOROPHENOL(PCP)	mg/kg	NIKE IN HOUSE METHOD	0.05	<0.05	n.d.	PASS
FORMALDEHYDE (SHOES >160mm)	mg/kg	ISO 14184-1	20	<75	n.d.	PASS
FORMALDEHYDE (SHOES <=160mm)	mg/kg	ISO 14184-1	20	<20	n.d.	PASS
METALS	---	---	---	---	---	---
CADMIUM	mg/kg	NIKE IN HOUSE METHOD	5	<50	n.d.	PASS
LEAD	mg/kg	NIKE IN HOUSE METHOD	5	<90	n.d.	PASS
MERCURY	mg/kg	NIKE IN HOUSE METHOD	0.1	<1	n.d.	PASS
CHROMIUM	mg/kg	NIKE IN HOUSE METHOD	3	<3	n.d.	INFO ONLY
TIN	mg/kg	NIKE IN HOUSE METHOD	0.1	<0.1	n.d.	INFO ONLY
ORGANOTIN COMPOUNDS	---	---	---	---	---	---
TRIBUTYL TIN(TBT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	---
TRIPHENYL TIN(TPhT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	---
SUM TOTAL OF TBT & TPhT	mg/kg	---	---	<0.5	n.d.	PASS
DIBUTYL TIN(DBT) (TEXTILE PRODUCTS FOR CHILDREN <36 MONTHS)	mg/kg	NIKE IN HOUSE METHOD	0.05	<1	n.d.	INFO ONLY
MONOBUTYL TIN(MBT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	INFO ONLY

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TEST ITEM(S)	UNIT	METHOD	MDL	SPEC	RESULT	CONCL.
TETRABUTYL TIN(TeBT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	INFO ONLY
MONOOCTYL TIN(MOT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	INFO ONLY
DIOCTYL TIN(DOT)	mg/kg	NIKE IN HOUSE METHOD	0.05	---	n.d.	INFO ONLY
VOLATILE ORGANICS	---	---	---	---	---	---
PENTACHLOROETHANE	mg/kg	HEADSPACE GC/MS	5	<1000	n.d.	PASS
CARBON TETRACHLORIDE	mg/kg	HEADSPACE GC/MS	5	<1000	n.d.	PASS
1,1,1,2-TETRACHLOROETHANE	mg/kg	HEADSPACE GC/MS	5	<1000	n.d.	PASS
1,1,2,2-TETRACHLOROETHANE	mg/kg	HEADSPACE GC/MS	5	<1000	n.d.	PASS
PHTHALATES	---	---	---	---	---	---
BIS(2-ETHYLHEXYL) PHTHALATE(DEHP)	mg/kg	NIKE IN HOUSE METHOD	30	---	n.d.	---
DI-ISO-DECYL PHTHALATE(DIDP)	mg/kg	NIKE IN HOUSE METHOD	100	---	n.d.	---
DI-N-OCTYL PHTHALATE(DNOP)	mg/kg	NIKE IN HOUSE METHOD	30	---	n.d.	---
DIBUTYL PHTHALATE(DBP)	mg/kg	NIKE IN HOUSE METHOD	30	---	n.d.	---
BUTYL BENZYL PHTHALATE(BBP)	mg/kg	NIKE IN HOUSE METHOD	30	---	n.d.	---
DI ISONONYL PHTHALATE(DINP)	mg/kg	NIKE IN HOUSE METHOD	100	---	n.d.	---
SUM TOTAL OF ABOVE PHTHALATES (FOR INFANT/TODDLER, LITTLE KIDS, AND BIG KIDS)	mg/kg	---	---	<500	n.d.	PASS

NOTE1 : THIS TEST REPORT IS FOR THE APPLICANT'S REFERENCE ONLY.

NOTE2 : mg/kg=ppm

NOTE3 : MDL=METHODETECTIONLIMIT.

NOTE4 : n.d. = Not Detected.

NOTE5 : *** = THE TEST(S) WAS/WERE SUBCONTRACTED TO OTHER SGS LABORATORY.

NOTE6 : THIS TEST REPORT REPLACES THE ORIGINAL ONE KE/2009/61539. THE ORIGINAL TEST REPORT KE/2009/61539 WAS INVALID.

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SAMPLE PHOTO



** END OF REPORT **

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