

PatentAlert 8-2009
Recyclable Carpets

US20080131649 - LOW MELT PRIMARY CARPET BACKINGS AND METHODS OF MAKING THEREOF

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Priority date 2006-11-30 (US)

Described herein are primary carpet backings that possess improved physical properties such as tuft binding strength. The backings described herein can be easily recycled and re-used. Also described herein are methods for making and recycling primary carpet backings.

US20070172630 - PRIMARY CARPET BACKINGS COMPOSED OF BI-COMPONENT FIBERS AND METHODS OF MAKING AND USING THEREOF

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Published 2007-07-26

Priority date 2006-11-30 (US)

Described herein are primary carpet backings composed of bi-component fibers. The backings described herein can be easily recycled and re-used. Also described herein are methods for making and recycling primary carpet backings.

JP2006158674 - CARPET MANUFACTURING METHOD AND CARPET MANUFACTURED BY SUCH MANUFACTURING METHOD

YOSHIDA FUSA ORIMONO KK

Published 2006-06-22

Priority date 2004-12-07 (JP)

PROBLEM TO BE SOLVED: To provide a carpet manufacturing method and a carpet manufactured by such a manufacturing method which does not use any adhesive agent such as Latex, is extremely adhesive, reduces wastes in case its recycling is facilitated by selecting appropriate component fiber, and helps saving resources and protecting the environment.

SOLUTION: The carpet is manufactured by forming a pile on the front surface of a primary ground fabric made of non-woven fabric of polyester fiber, a skin material coated with polyethylene resin for protecting the pile against thread casting off on the back surface of the primary ground fabric, and a backing material made of needled two-layered non-woven fabric. The polypropylene fiber of the upper layer of the backing material is burnt and melted at a temperature which the polyester fiber of the lower layer does not melt. The melted polypropylene fiber of the upper layer of the backing material and the back side of the skin material are laid on top of the other in a way that both sides face with each other, pressurized and bonded each other, and dried.

JP2004141549 - CARPET LINING MATERIAL AND CAR CARPET USING THE SAME

SANJOU KOGYO KK

Published 2004-05-20

Priority date 2002-10-28 (JP)

PROBLEM TO BE SOLVED: To obtain a carpet lining material and a car carpet using the same at an inexpensive processing cost, of which the physical property such as sound insulation is maintained and strengthened, recycling is easy and calendar molding and in-line laminating are enabled, by improving flexibility, making it possible for recycled materials such as regenerated polyethylene resin to be used for main material, and providing a composition in which melting point is not lowered.

SOLUTION: The composition of the carpet lining material comprises regenerated polyethylene resins, modified polyethylene resins, modified polyolefin resins, and inorganic fillers being compounded together. On surface of the carpet lining material, pile materials such as polyethylene terephthalate resins and polypropylene resins, are bonded to compose the car carpet.

PatentAlert 8-2009
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JP2004324018 - TUFTED MAT MADE OF POLYOLEFIN AND METHOD FOR PRODUCING THE SAME

DIATEX KK

Published 2004-11-18

Priority date 2003-04-25 (JP)

PROBLEM TO BE SOLVED: To provide a tufted mat made of a polyolefin, suitable for artificial turf and carpet, having light weight and excellent water resistance, closely contacting with the laying base without causing undulation owing to its soft texture, free from the falling-off of the pile yarn and having excellent durability and good recycling property.

SOLUTION: A primary base cloth made of a polyolefin is tufted with a pile yarn made of a polyolefin to form a pile cloth and the pile yarn is bonded to the primary base cloth with a bonding polyolefin having a low melting point to form a tufted mat. The polyolefins used in the process are polyethylenes, ethylene- α -olefin copolymers and/or polypropylenes polymerized by a metallocene catalyst.

US6503595 - CARPET HAVING SYNDIOTACTIC POLYPROPYLENE BACKING AND TECHNIQUE FOR MAKING SAME

ARISTECH CHEMICAL COMPANY

Published 2003-01-07

Priority date 2000-02-22 (US)

The disclosure relates to a carpet, a process for manufacturing a carpet and a method for recycling a carpet. The carpet of the present disclosure includes a primary backing having tufts of synthetic carpet fibers protruding from a top surface and, optionally, a secondary backing, with an extruded sheet of a polyolefin polymer composition between and integrally fused to a bottom surface of the primary backing and an upper surface of the secondary backing. The extruded sheet polymer composition comprises at least 10%, preferably, at least 20% by weight of a syndiotactic polypropylene product. The extruded sheet polymer composition may further comprise less than 40% by weight of an impact modifier. The process for manufacturing the recyclable carpet includes contacting the extruded sheet with the primary backing and, optionally, the secondary backing, at a temperature sufficiently high to integrally fuse the extruded sheet to the respective backing. The extruded sheet provides excellent adhesion and abrasion properties.

JP2000211417 - LIGHT-WEIGHT HARD FELT FOR AUTOMOBILE FLOOR AND MANUFACTURE THEREOF

HOWA SENI KOGYO; TOYOTA AUTO BODY CO LTD

Published 2000-08-02

Priority date 1999-01-26 (JP)

PROBLEM TO BE SOLVED: To provide an automobile floor material capable of attaining light weight, little permanent set in fatigue, excellent sound absorbing characteristics, and easy recycling.

SOLUTION: This felt forms a fleece by opening and blending polypropylene fiber and low-melting point small-diameter fiber and passing it through a card machine. After the fibers are complicated each other by overlaying the fleece with a layer for multiple layering, applying a needling process to the multi-layered original material, the original material is passed through a waving machine to perform wavy folding and form a wavy felt. The wavy felt is heated by an oven to melt low-melting point small diameter fiber.

US5630896 - METHOD OF MAKING RECYCLABLE TUFTED CARPETS

HOECHST CELANESE CORP

Published 1997-05-20

Priority date 1995-06-06 (US)

A recyclable thermoplastic tufted fabric made of a partially meltable primary backing and tufts tufted into the primary backing. The tufts are bonded to the backing by partially melting the backing to bond the tufts and applying a secondary backing. Such a carpet can be recycled through processes known to recycle polyester.

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WO2002102914 - HOT MELT ADHESIVE COMPOSITION

EASTMAN CHEM CO

Published 2002-12-27

Priority date 2001-06-14 (US)

A hot melt adhesive that is useful in the production of textiles, such as a tuft carpet, contains a blend of constituents that allows synthetic carpet members to be fully recycled without first separating the adhesive from the carpet members. The adhesive includes: a) from about 5 to about 30 weight % of a copolymer of an alkyl acrylate having from 2 to 18 carbon atoms; b) from about 5 to about 50 weight % of a wax and desirably a C10 wax; c) up to about 75 weight % of a filler; and d) from about 0.1 to about 10 weight % of an aliphatic carboxylic acid having from 8 to 24 carbon atoms.

US6291048 - POLYMERIC BASED CARPET

EASTMAN CHEM CO

Published 2001-09-18

Priority date 1999-02-16 (US)

Polymeric carpet and a method of making and recycling such carpet, the carpet having fibers, backing and extruded adhesive all of completely recyclable materials, the recycling being accomplished in one melting step, without a separation step.

US5604009 - NON-ADHESIVE BONDED TUFTED CARPET AND METHOD FOR MAKING THE SAME

SYNTHETIC IND INC

Published 1997-02-18

Priority date 1994-12-02 (US)

A non-wet processed tufted carpet includes a plurality of face yarns, dyeable to the desired carpet color prior to tufting, which are tufted into and through a primary backing fabric and which are more securely held in place by a secondary backing fabric without the use of an adhesive binder, the secondary backing fabric locking the face yarn in place upon the application of heat to a non-wet surface of the secondary backing fabric non-adjacent to the primary backing fabric. The tufted carpet does not include any latex or binding adhesives which may cause odors or emit volatile organic chemicals. Moreover, the face yarn, primary backing fabric, and secondary backing fabric are made of the same type of polymeric material, thereby creating a carpet which is wholly recyclable. The carpet also uses only pre-dyed fibers and yarns as the face yarn, thereby eliminating the need to dye or wet process and dry the carpet during its manufacture. The present invention also provides a non-wet processing method for the manufacture of tufted carpet.

DE4140580 - TUFTED CARPETS CAPABLE OF BEING COMPLETELY RECYCLED - HAS BACKING, PILE AND ADHESIVE MADE OF SAME TYPE OF POLYMER AND COPOLYMER AND HEAT-BONDED

PEGULAN TARKETT AG

Published 1993-06-17

Priority date 1991-12-10 (DE)

Carpets esp. tufted carpets, are made for complete recycling by using the same material for backing, pile and adhesive. The backing is a heat bonded nonwoven using a mixture of high and low m. pt. fibres. The pile is attached by an adhesive of the same material in the form of a film, as fibres or as an aq. -dispersion which is then heated to its melting temp. The material can be polyamide, polypropylene or polyester. M. pts. are pref. below 200 °C. Carded batts of a mixture of polyamide and polyamide copolymer fibres are cross laid, needle punched and bonded at 150 °C. After tufting the polyamide pile is attached by applying a paste consisting of a suspension of polyamide copolymer powder in water and heating with IR heaters to 140 °C. A second nonwoven backing can be applied by the same method. USE/ADVANTAGE - The carpets can be completely recycled by melting and are particularly useful for automobile applications.