



US008404079B1

(12) **United States Patent**
Kueppers et al.

(10) **Patent No.:** **US 8,404,079 B1**
(45) **Date of Patent:** **Mar. 26, 2013**

(54) **COMPOSITION AND METHOD RELATING TO A HOT MELT ADHESIVE**

(75) Inventors: **Michelle C. Kueppers**, North Oaks, MN (US); **Steven W. Albrecht**, Forest Lake, MN (US); **Mark S. Kroll**, Arden Hill, MN (US); **Vitaly Rogachevsky**, Woodbury, MN (US)

(73) Assignee: **H.N. Fuller Company**, St. Paul, MN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1301 days.

(21) Appl. No.: **11/933,833**

(22) Filed: **Nov. 1, 2007**

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/156,433, filed on Jun. 20, 2005.

(60) Provisional application No. 60/600,041, filed on Aug. 9, 2004.

(51) **Int. Cl.**
B32B 27/00 (2006.01)
B29C 65/00 (2006.01)

(52) **U.S. Cl.** **156/334**; 156/325; 156/701

(58) **Field of Classification Search** 156/344, 156/327, 334, 247, 297, 299, 325, 326, 701; 428/34.2; 53/447, 540, 541; 206/460
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,113,673	A	12/1963	Stein	
3,356,765	A *	12/1967	Musso et al.	525/240
3,573,240	A	3/1971	Flanagan	
4,075,290	A *	2/1978	Denzel et al.	525/240
4,365,710	A	12/1982	Swanson	
4,826,909	A	5/1989	Lakshmanan et al.	

4,830,926	A	5/1989	Moster et al.
4,833,192	A	5/1989	Lakshmanan et al.
4,833,193	A	5/1989	Sieverding et al.
4,907,741	A	3/1990	McIntyre
4,956,207	A	9/1990	Kauffman et al.
5,024,888	A	6/1991	Hwo et al.
5,106,447	A	4/1992	Di Rado et al.
5,256,717	A	10/1993	Stauffer et al.
5,419,431	A	5/1995	Neuber et al.
5,450,708	A	9/1995	Lashyro
5,624,986	A	4/1997	Bunnelle et al.
5,627,229	A	5/1997	Bunnelle et al.
5,887,717	A	3/1999	Anderson et al.
6,008,148	A	12/1999	Harris et al.
6,114,261	A	9/2000	Strelow et al.
6,143,846	A	11/2000	Herrmann et al.
6,182,442	B1	2/2001	Schmidt et al.
6,218,457	B1	4/2001	Fralich
6,244,502	B1	6/2001	Hollar et al.

(Continued)

FOREIGN PATENT DOCUMENTS

EP	0 331 410	9/1989
EP	0 518 045	12/1992

(Continued)

OTHER PUBLICATIONS

Bulletin: "Polybutene-1 DP 8910 PC", Data Sheet, Basell Polyolefins, (2 pages), 2004.

(Continued)

Primary Examiner — John Goff

(74) *Attorney, Agent, or Firm* — Kristin Stone; Kristi Halloran

(57) **ABSTRACT**

The invention includes a hot melt adhesive composition that includes at least one of an isotactic copolymer of butene-1 and a metallocene catalyzed propylene homopolymer, a tackifying resin, and, optionally, a wax. The adhesive composition initially exhibits adhesion quality and subsequently non-adhesion quality. The invention also includes methods of using the adhesive composition for temporarily bonding substrates.

15 Claims, 1 Drawing Sheet

