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United States Patent [19]**Bisbis et al.**[11] **Patent Number:** **5,919,539**[45] **Date of Patent:** **Jul. 6, 1999**[54] **ULTRASONIC SEAMING OF SPUNBONDED
POLYOLEFIN SHEET MATERIAL**

5,492,753 2/1996 Levy 428/219

FOREIGN PATENT DOCUMENTS[75] Inventors: **Benyoussef Y. Bisbis**, Echternach;
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OTHER PUBLICATIONS[73] Assignee: **E. I. du Pont de Nemours and
Company**, Wilmington, Del.Boggs, "Vibrate Your Parts Together", Design News (Aug.
2, 1993).[21] Appl. No.: **08/599,766***Primary Examiner*—Nasser Ahmad[22] Filed: **Feb. 12, 1996**[57] **ABSTRACT**[51] **Int. Cl.⁶** **B32B 3/00**[52] **U.S. Cl.** **428/57**; 2/2; 2/77; 2/79;
428/58; 428/61; 428/192; 428/903[58] **Field of Search** 428/57, 58, 61,
428/903, 192; 2/2, 77, 79

A method for ultrasonically joining flashspun bonded polyolefin sheets and a seam generated by the method is provided. The method includes the steps of overlapping at least two polyolefin sheet edges, and connecting the overlapped edges by feeding the overlapped portions between an ultrasonic horn and a patterned backup roll. The connected first and second sheet edge portions have a tensile strength across the overlapped and welded portion that is at least 75% of the tensile strength of the sheet material joined. The seam is generated with just one pass between the ultrasonic horn and the patterned backup roll.

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6 Claims, 2 Drawing Sheets