



US008997796B2

(12) **United States Patent**  
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(10) **Patent No.:** **US 8,997,796 B2**  
(45) **Date of Patent:** **Apr. 7, 2015**

(54) **DURABLE SEMI-RIGID SINGLE-LAYER FLEXIBLE DUCT**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 132 days.

(21) Appl. No.: **13/740,204**

(22) Filed: **Jan. 13, 2013**

(65) **Prior Publication Data**  
US 2013/0153076 A1 Jun. 20, 2013

**Related U.S. Application Data**  
(63) Continuation of application No. 12/692,612, filed on Jan. 24, 2010, now Pat. No. 8,469,062.

(51) **Int. Cl.**  
**F16L 11/00** (2006.01)  
**F16L 11/24** (2006.01)  
**B21C 37/15** (2006.01)  
**D06F 58/20** (2006.01)  
**F16L 11/08** (2006.01)  
**F16L 11/112** (2006.01)  
**F24F 13/02** (2006.01)

(52) **U.S. Cl.**  
CPC ..... **F16L 11/24** (2013.01); **B21C 37/154** (2013.01); **D06F 58/20** (2013.01); **F16L 11/081** (2013.01); **F16L 11/112** (2013.01); **F24F 13/0218** (2013.01)

(58) **Field of Classification Search**  
USPC ..... 138/125, 127, 131, 133, 134, 149; 428/36.91  
See application file for complete search history.

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(57) **ABSTRACT**

A durable, semi-rigid, single-layered flexible duct having a sleeve made of a single aluminum layer and a resilient wound element disposed at the mid-point of the overlap region of the aluminum layer. The wound element imparts corrugations to the sleeve, such that the duct is extendible between a compacted configuration suitable for storage and for shipping and an extended configuration suitable for installation in a gas transport arrangement. Closely and evenly-spaced ridges that are situated in between the corrugations, add rigidity and durability to the duct. The inward-facing surface of the aluminum ribbon is substantially smooth and featureless except for the helical corrugations imparted by wire winding and the closely and evenly-spaced ridges. The aluminum sleeve is of a predetermined thickness rendering the duct substantially rigid when in an extended configuration and enabling the duct to maintain its substantial rigidity upon extension from a compacted configuration.

**27 Claims, 28 Drawing Sheets**

