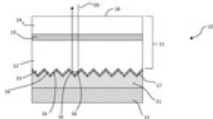
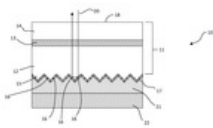
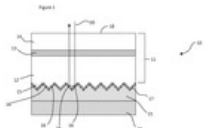
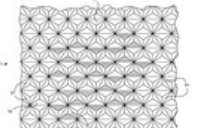
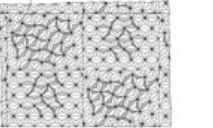
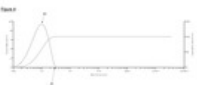
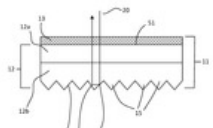
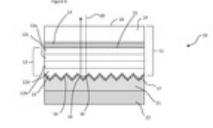
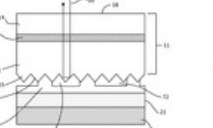
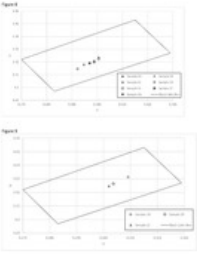
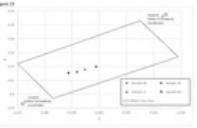
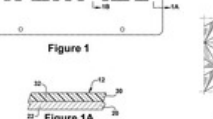
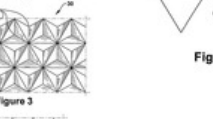
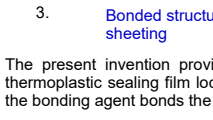
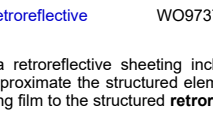
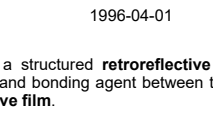
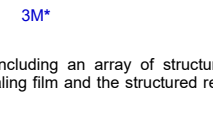
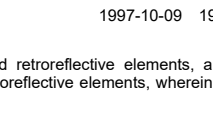
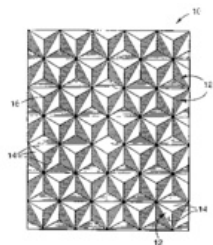
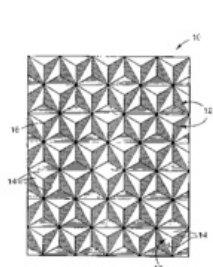
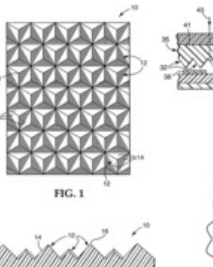
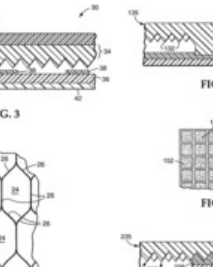
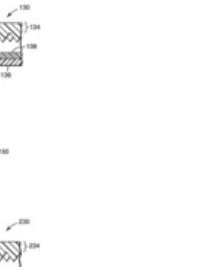
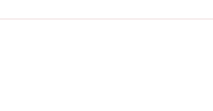
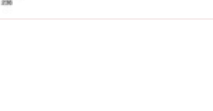
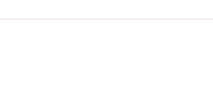
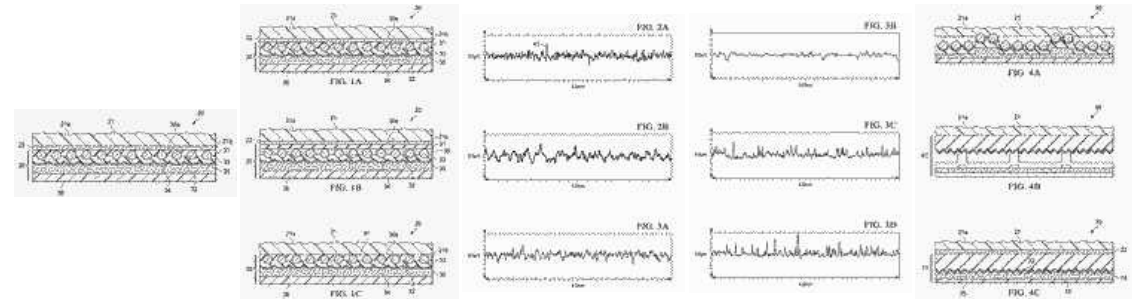
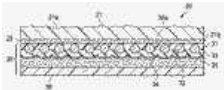


62 results for (retroreflective film and ink and layer and printed)/TI/AB/IW/TX AND (G02B-005)/IPC - Collection: FAMPAT

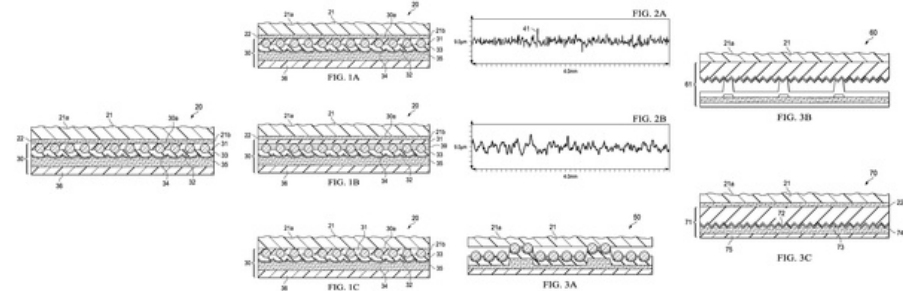
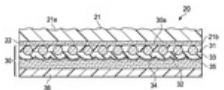
#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	Black microprismatic retroreflective film	WO2017049190	2016-09-16	AURA OPTICAL SYSTEMS* AURA OPTICAL SYSTEMS NORTH RICHLAND HILLS	2017-03-23	2017-03-23
One embodiment of the present disclosure provides a black microprismatic retroreflective film. The black microprismatic retroreflective film comprises a body layer and a black color layer. The body layer includes microprismatic optical elements. The black color layer gives the black microprismatic retroreflective film a daytime color of black. The black microprismatic retroreflective film has a coefficient of retroreflectivity greater than 50 cd/lx/m2 at a -4 degree entrance angle and 0.2 degree observation angle.						
     					   	
2.	Retroreflective film	BRPI0500848	2005-01-10	AVERY DENNISON* EHVERI DENNISON KOPEHREJSHN MATOS EDUARDO SILVA	2005-06-21	2005-06-21
The invention is related to a retroreflective film having a prismatic layer with retroreflective prism elements; a sublayer extending between its front surface and the retroreflective prism elements; wherein the retroreflective elements have a height h elements of less than 115µm and the sublayer has a thickness t sublayer less than 25 µm.						
    					    	
3.	Bonded structured retroreflective sheeting	WO9737250	1996-04-01	3M*	1997-10-09	1997-10-09
The present invention provides a retroreflective sheeting including a structured retroreflective film including an array of structured retroreflective elements, a thermoplastic sealing film located proximate the structured elements, and bonding agent between the sealing film and the structured retroreflective elements, wherein the bonding agent bonds the sealing film to the structured retroreflective film.						
    					    	

In one aspect, there is provided a **retroreflective film**, comprising a retroreflective sub-structure, and a transparent polymeric film, having a surface roughness profile where the Arithmetic Mean Deviation of the Roughness Profile (Ra) ranges from about 0.18 microns to about 1.30 microns and where the Mean Spacing of Local Peaks (R-S) in the printing direction ranges from about 10 microns to about 85 microns, located over and coupled to the retroreflective sub-structure and wherein the polymeric film as a Vicat softening point of about 90° or greater.



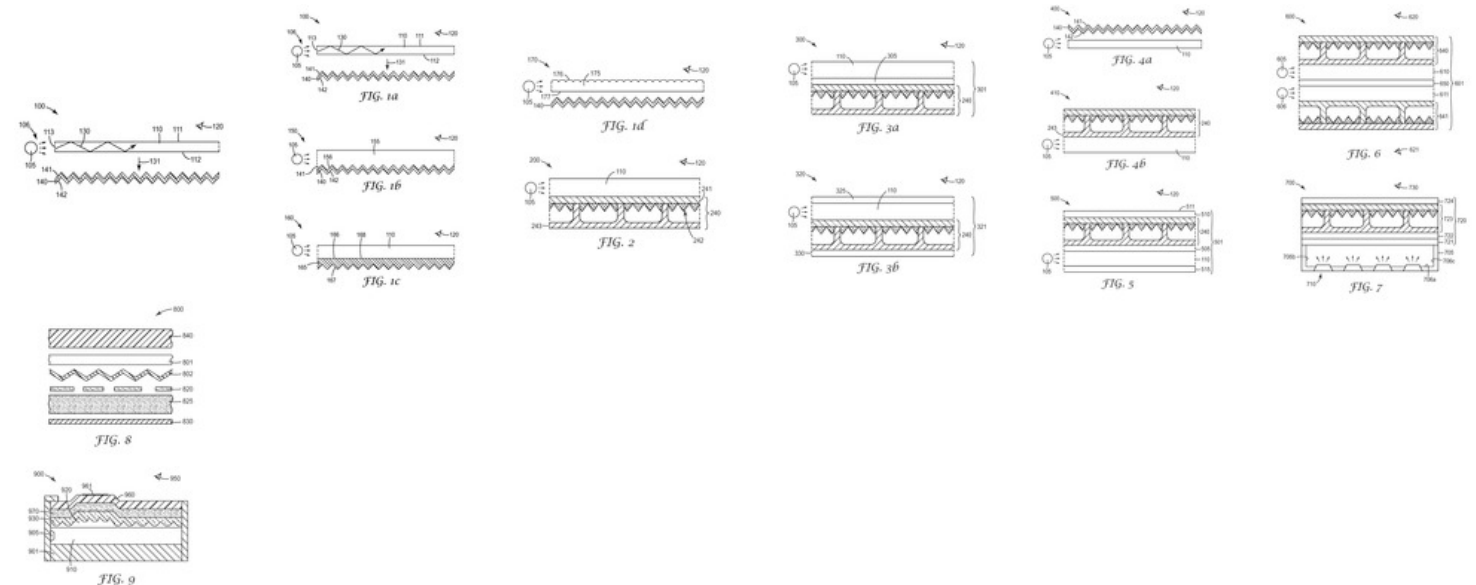
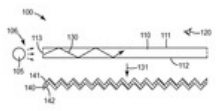
5. **Im**proved retroreflective film containing a polymeric face film WO2009120398 2009-01-21 AURA OPTICAL SYSTEMS
AURA OPTICAL SYSTEMS
AURA OPTICAL SYSTEMS NORTH
RICHLAND HILLS* 2009-10-01 2009-10-01

In one aspect, there is provided a **retroreflective film**, comprising a retroreflective sub-structure (30), and a transparent polymeric film (21), having a surface roughness profile where the Arithmetic Mean Deviation of the Roughness Profile (Ra) ranges from about 0.18 microns to about 1.30 microns and where the Mean Spacing of Local Peaks (R-S) in the printing direction ranges from about 10 microns to about 85 microns, located over and coupled to the retroreflective sub-structure and wherein the polymeric film as a Vicat softening point of about 90° or greater.

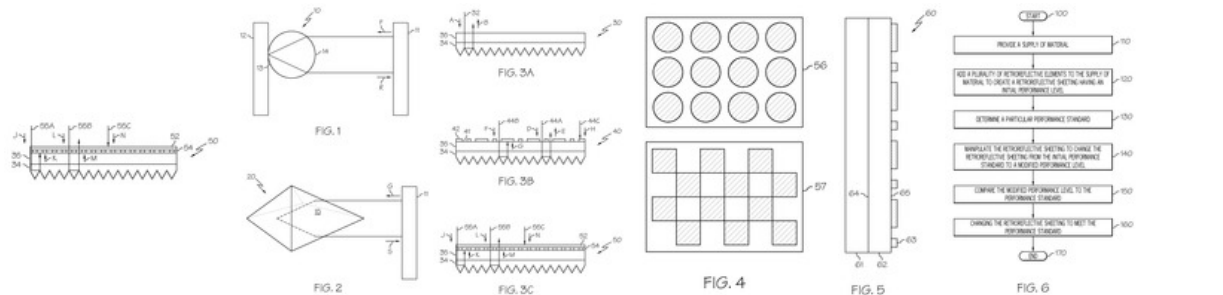
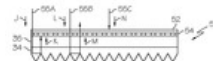


6. **Ret**roreflective articles and devices having viscoelastic lightguide WO2010005810 2009-06-26 3M INNOVATIVE PROPERTIES* 2010-01-14 2010-01-14

Disclosed herein is an optical device having a light source, a viscoelastic lightguide and a **retroreflective film** suitable for retroreflecting light. Light from the light source enters the viscoelastic lightguide and is transported within the lightguide by total internal reflection. The transported light is extracted from the lightguide and retroreflected at a structured surface of the **retroreflective film**. The optical device may have a "front lit" or a "back lit" configuration depending on the relative positioning of the lightguide and the **retroreflective film**. The **retroreflective film** may include prismatic retroreflective sheeting, holographic film or film structured with diffraction gratings. The optical device may be used, for example, as a sign or marking, a license plate assembly, a tail light assembly for vehicles, a security laminate for protection of documents against tampering, or an illumination device.

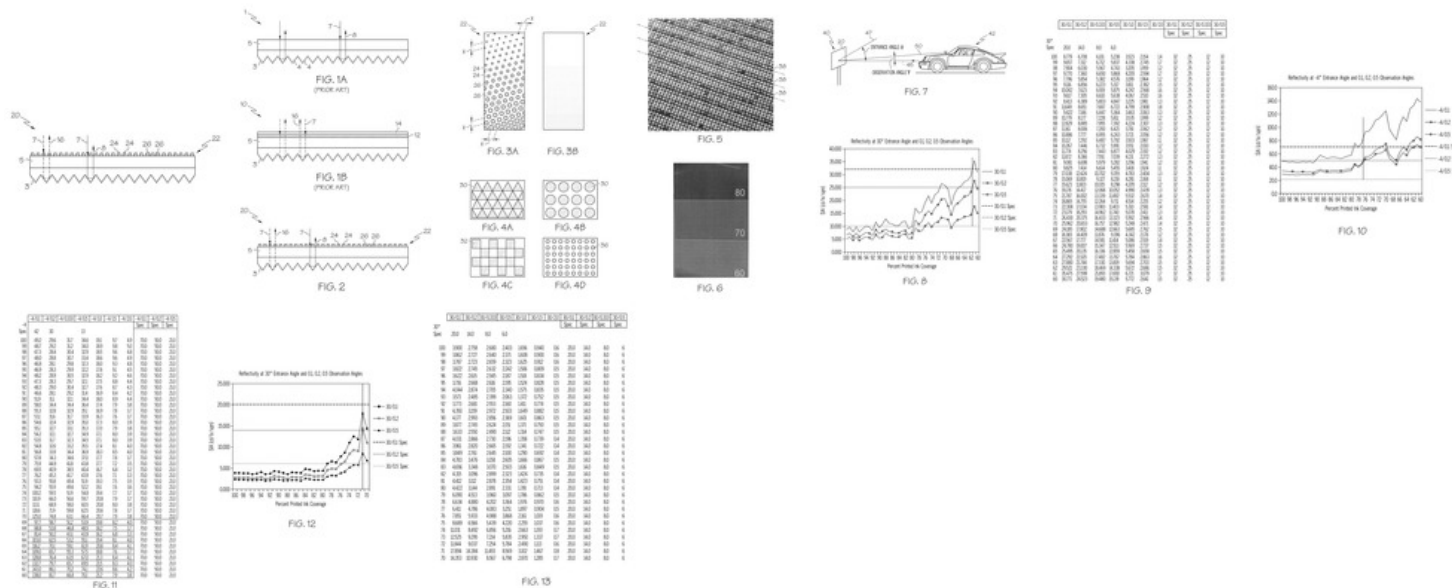
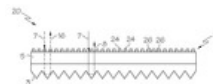


A retroreflective sheet, which may be a beaded retroreflective sheet or a prismatic retroreflective sheet, is comprised of a substrate having a first and second surfaces with a plurality of retroreflective elements disposed on the second surface of the substrate to form the retroreflective sheet having an initial performance standard and a **printed** pattern disposed on the second surface, the pattern provided in an amount ranging from 30 % to about 100 % of an area of the second surface to change a performance level of the retroreflective sheet from the initial performance standard to a selected performance standard. A method for producing the retroreflective sheeting and a system for controlling the retroreflectivity of the retroreflective sheeting by altering a surface of the retroreflective sheeting is provided.

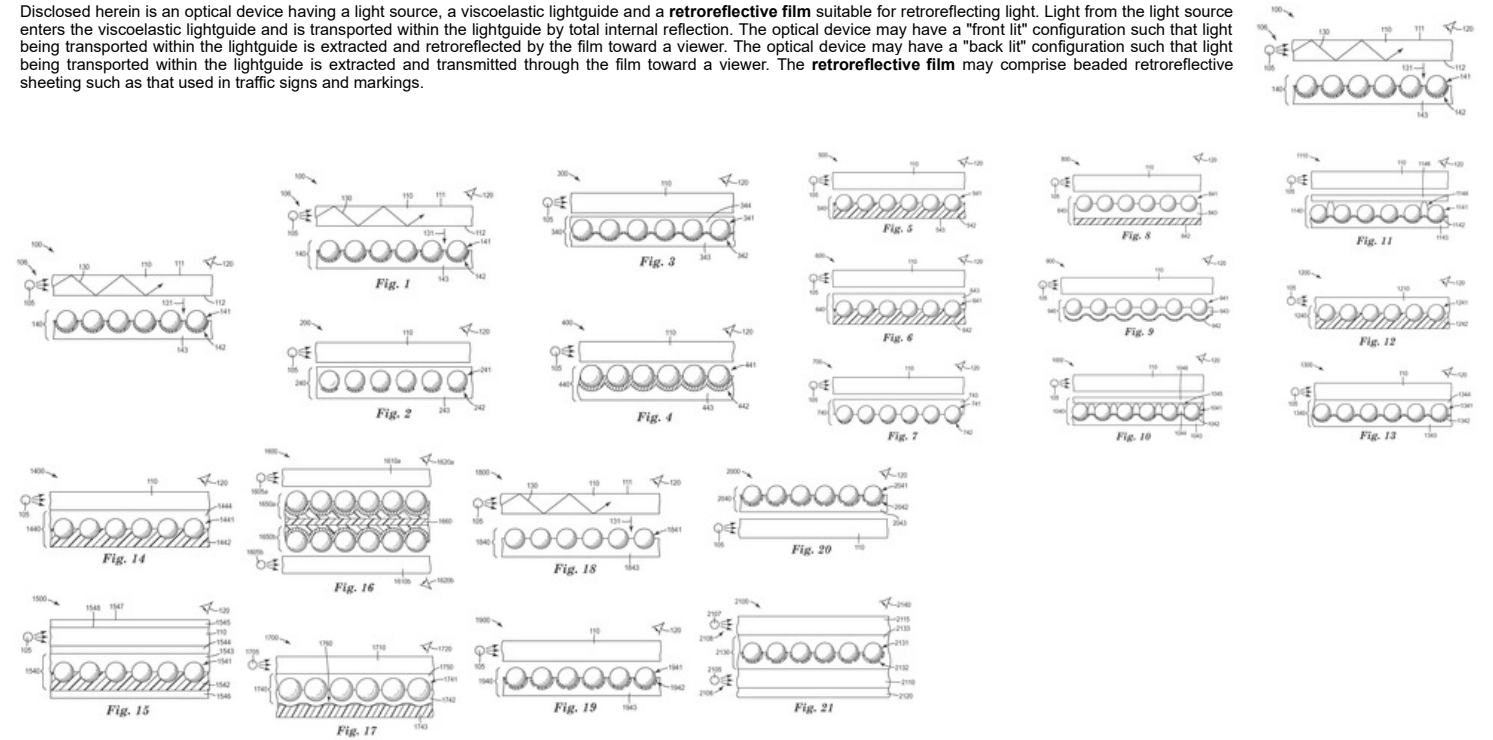


8.	Retroreflective sheeting having a halftone printed front surface	US20130100532	2012-10-19	AVERY DENNISON*	2013-04-25	2013-04-25
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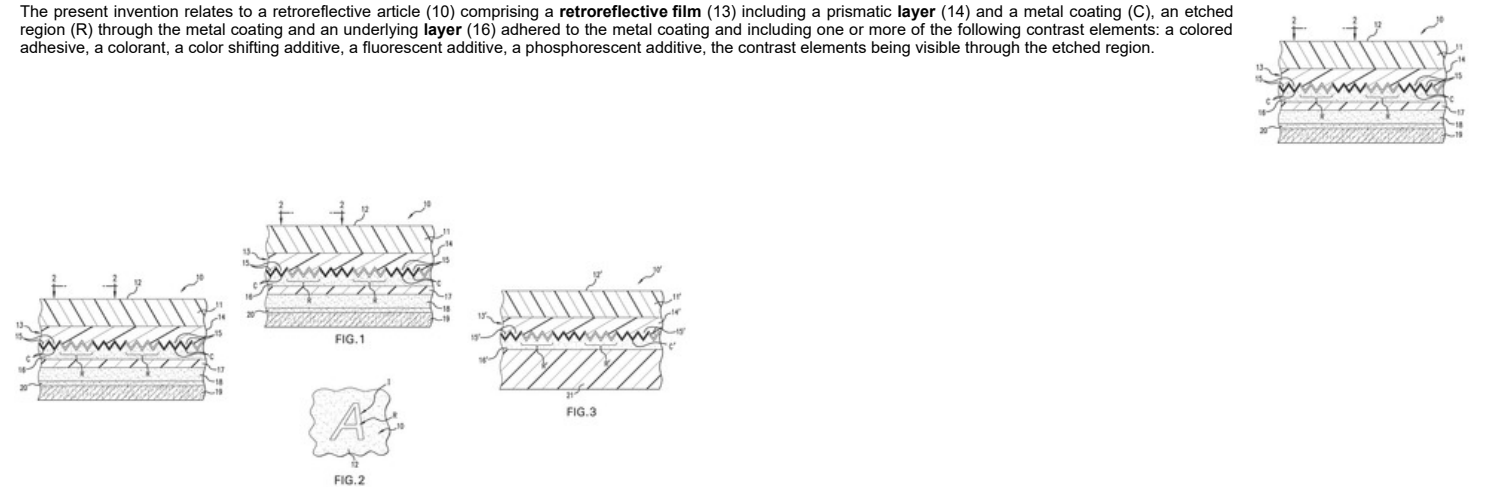
A **printed retroreflective film** has a planar surface on a front side and a plurality of retroreflective elements on a back side. A halftone **printed ink layer** is deposited on the planar surface formed from uniformly spaced, discrete dots of deposited **ink**. The areas between the dots provide light-transmissive openings that receive incident light and transmit retroreflected light. The aggregate area of the dots forming the half-tone pattern preferably covers between about 60% and 90% of the area of the half-tone pattern. The use of such a halftone pattern of **ink** increases the reflectivity of the **printed** retroreflective sheeting by reducing the amount of light absorbed by the **ink**, and by reducing the amount of light scattered by the **layer of ink**. The use of such a halftone pattern of **ink** further obviates the need for an anti-light scattering topcoat or film over the front surface of the retroreflective sheet.



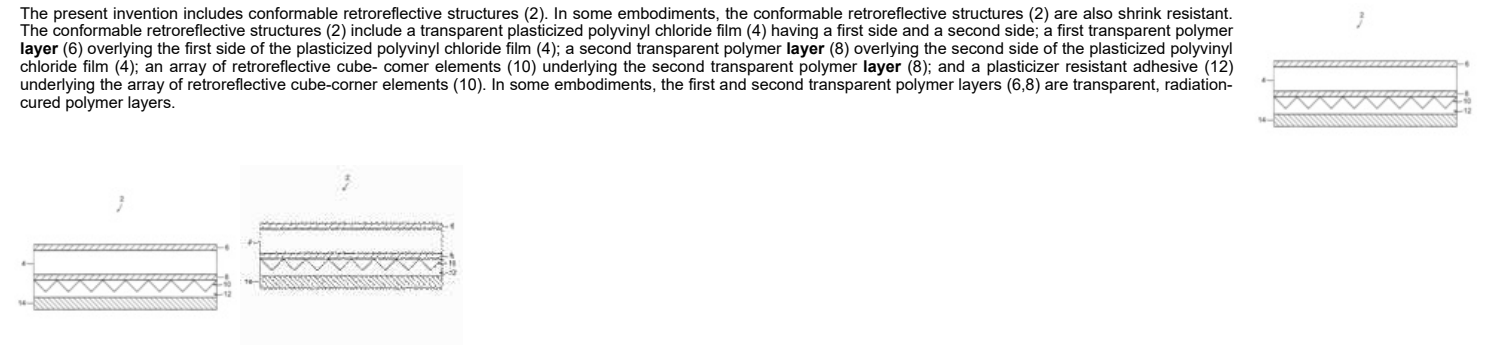
Disclosed herein is an optical device having a light source, a viscoelastic lightguide and a **retroreflective film** suitable for retroreflecting light. Light from the light source enters the viscoelastic lightguide and is transported within the lightguide by total internal reflection. The optical device may have a "front lit" configuration such that light being transported within the lightguide is extracted and retroreflected by the film toward a viewer. The optical device may have a "back lit" configuration such that light being transported within the lightguide is extracted and transmitted through the film toward a viewer. The **retroreflective film** may comprise beaded retroreflective sheeting such as that used in traffic signs and markings.



The present invention relates to a retroreflective article (10) comprising a **retroreflective film** (13) including a prismatic **layer** (14) and a metal coating (C), an etched region (R) through the metal coating and an underlying **layer** (16) adhered to the metal coating and including one or more of the following contrast elements: a colored adhesive, a colorant, a color shifting additive, a fluorescent additive, a phosphorescent additive, the contrast elements being visible through the etched region.



The present invention includes conformable retroreflective structures (2). In some embodiments, the conformable retroreflective structures (2) are also shrink resistant. The conformable retroreflective structures (2) include a transparent plasticized polyvinyl chloride film (4) having a first side and a second side; a first transparent polymer **layer** (6) overlying the first side of the plasticized polyvinyl chloride film (4); a second transparent polymer **layer** (8) overlying the second side of the plasticized polyvinyl chloride film (4); an array of retroreflective cube- corner elements (10) underlying the second transparent polymer **layer** (8); and a plasticizer resistant adhesive (12) underlying the array of retroreflective cube-corner elements (10). In some embodiments, the first and second transparent polymer layers (6,8) are transparent, radiation-cured polymer layers.



12. Flame retardant **retroreflective film structure**

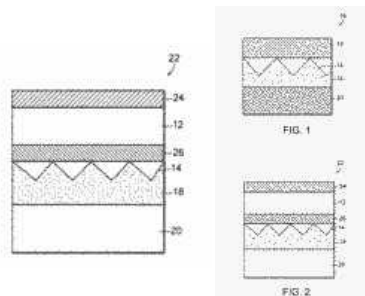
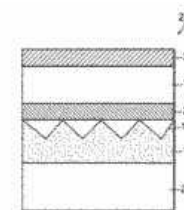
WO2007108971

2007-03-09

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Flame retardant and heat resistant retroreflective structures are disclosed. Generally, the retroreflective structure includes a transparent plasticized polyvinyl chloride film, an array of retroreflective cube-corner elements underlying the transparent plasticized polyvinyl chloride film, a flame retardant and heat resistant adhesive underlying the array of retroreflective cube-corner elements, and a flame retardant woven fabric bonded to the flame retardant and heat resistant adhesive.

13. Perforated **retroreflective film**

WO9931534

1998-12-15

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1999-06-24 1999-06-24

A see-through retroreflective structure includes a transparent polymeric film, an array of retroreflective elements attached to the polymeric film, and an array of apertures through the retroreflective structure within the array of retroreflective elements. In one embodiment, the retroreflective structure includes a metalized reflective **layer** formed on the transparent prism elements and a support **layer**, such as a fabric, is attached to the metalized reflective **layer**. The method includes providing a transparent polymeric film. An array of retroreflective elements is attached to the polymeric film. The array of retroreflective elements and the transparent polymeric film are perforated through the retroreflective structure to form an array of apertures, thereby forming a retroreflective structure. The apertures are of sufficient size and spacing to provide a see-through capability. In one embodiment, a metalized reflective **layer** can be applied to the retroreflective elements and a support **layer**, such as a fabric, is attached to the metalized reflective **layer**.

