

We claim:

1. A retroreflective film comprising:
a prismatic layer having a plurality of retroreflective prism elements;
a reflective layer comprising a metal coating conforming to the prismatic layer so that the film retroreflects light; and
one or more layers above the reflective layer;
wherein the prismatic layer or the one or more layers above the reflective layer comprises a fluorescent dye from 0.0001 wt.% to 0.05 wt.%, based on the total weight of the layer.
2. The retroreflective film of claim 1, wherein the prismatic layer or the one or more layers above the reflective layer comprises the fluorescent dye from about 0.001 wt.% to 0.01 wt.%, based on the total weight of the layer.
3. The retroreflective film of any of claims 1 or 2, wherein prismatic layer and the one or more layers above the reflective layer are in an optical path of the film.
4. The retroreflective film of any of claims 1-3, further comprising one or more layers below the reflective layer.
5. The retroreflective film of any of claims 1-4, wherein the one or more layers below the reflective layer is not in the optical path.
6. The retroreflective film of claims 1-5, wherein the retroreflective film comprises an optional protective layer, the prismatic layer, the reflective layer, an adhesive layer, and a liner.
7. The retroreflective film of claim 6, wherein the retroreflective film is sequentially arranged from top to bottom comprising the optional protective layer, the prismatic layer, the reflective layer, the adhesive layer, and the liner.
8. The retroreflective film of any of claims 6 or 7, wherein the protective layer is transparent.

9. The retroreflective film of any of claims 6-8, wherein the protective layer comprises the fluorescent dye.
10. The retroreflective film of any of claims 6-9, wherein the protective layer comprises a UV absorbing layer.
11. The retroreflective film of any of claims 1-10, wherein the reflective layer comprises one or more aluminum, chrome, or silver.
12. The retroreflective film of any of claims 1-11, wherein the reflective layer is opaque.
13. The retroreflective film of any of claims 1-12, wherein the film has a luminance factor of at least 15 as defined by the CIE 1931 Standard Colorimetric System.
14. The retroreflective film of any of claims 1-13, wherein the retroreflective film has an average retroreflectivity of at least $350 \text{ cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ when tested according to ASTM E 810-03 (2013).
15. The retroreflective film of any of claims 1-14, wherein the retroreflective film has chromaticity coordinates (x,y) within the area defined by the following coordinates: (0.305, 0.315), (0.335, 0.345), (0.325, 0.355) and (0.295, 0.325).
16. The retroreflective film of any of claims 1-15, wherein the one or more layers above the reflective layer is a coating layer comprising the fluorescent dye.
17. The retroreflective film of claim 16, wherein the coating layer is sandwiched between the prismatic layer and the reflective layer.
18. A retroreflective film comprising:
a prismatic layer having a plurality of retroreflective prism elements;
a reflective layer conforming to the prismatic layer so that the film retroreflects light;
one or more layers above the reflective layer;

wherein the one or more layers above the reflective layer comprises a coating composition comprising:

an organic solvent from 40 wt.% to 60 wt.%, based on the total weight of the composition;

an aromatic hydrocarbon from 10 wt.% to 40 wt.%, based on the total weight of the composition;

an impact-modified acrylic from 10 wt.% to 40 wt.%, based on the total weight of the composition; and

a fluorescent dye package comprising a fluorescent dye, wherein the fluorescent dye is present from 0.0001 wt.% to 0.05 wt.%, based on the total dry weight of the composition.

19. The retroreflective film of claim 18, wherein the fluorescent dye package comprises:

an impact-modified acrylic and a UV additive from 90 wt.% to 99.8 wt.%, based on the total weight of the dye package; and

the fluorescent dye from 0.50 wt.% to 3 wt.%, based on the total weight of the dye package.

20. The retroreflective film of claim 19, wherein the fluorescent dye is fluorescent yellow-

green dye, wherein the fluorescent yellow-green dye is provided in an amount from 1.0 wt.% to 1.5 wt.%, based on the total weight of the dye package.

21. The retroreflective film of claim 18, wherein the fluorescent dye comprises:

an impact-modified acrylic from 80 wt.% to 98 wt.%, based on the total weight of the dye package;

an impact-modified acrylic and a UV additive from 1 wt.% to 10 wt.%, based on the total weight of the dye package; and

the fluorescent dye from 0.01 wt.% to 1 wt.%, based on the total weight of the dye package.

22. The retroreflective film of claim 21, wherein the fluorescent dye is fluorescent orange

dye, wherein the fluorescent orange dye is provided in an amount from 0.10 wt.% to 0.20 wt.%, based on the total weight of the dye package.

23. The retroreflective film of any one of claims 18-22, wherein the coating composition is

applied to the prismatic layer of the retroreflective film.

24. The retroreflective film of any one of claims 18-23, wherein a luminance factor of the retroreflective films is at least 15 as defined by the CIE 1931 Standard Colorimetric System.

25. The retroreflective film of any one of claims 18-24, wherein an average retroreflectivity of the retroreflective film is at least $350 \text{ cd} \cdot \text{lx}^{-1} \cdot \text{m}^{-2}$ when tested according to ASTM E 810-03 (2013).

26. The retroreflective film of any one of claims 18-25, wherein the chromaticity coordinates (x,y) of the retroreflective film is within the area defined by the following coordinates: (0.305, 0.315), (0.335, 0.345), (0.325, 0.355) and (0.295, 0.325).

27. The retroreflective film of any one of claims 18-25, wherein the coating composition forms a layer having a thickness from 10 microns to 80 microns.