



US005305634A

United States Patent [19]

[11] Patent Number: **5,305,634**

Suga et al.

[45] Date of Patent: **Apr. 26, 1994**

[54] WEATHERING TEST METHOD AND SAMPLE HOLDER USED THEREIN

[75] Inventors: **Shigeru Suga; Shigeo Suga; Etsuji Natori**, all of Tokyo, Japan

[73] Assignee: **Suga Test Instruments Co. Ltd.**, Tokyo, Japan

[21] Appl. No.: **982,372**

[22] Filed: **Nov. 25, 1992**

[51] Int. Cl.⁵ **G01N 17/00**

[52] U.S. Cl. **73/86; 73/856; 73/865.6**

[58] Field of Search **73/86, 87, 760, 785, 73/788, 796, 797, 806, 812, 813, 818, 826, 833, 856, 865.6**

[56] References Cited

U.S. PATENT DOCUMENTS

| | | | |
|-----------|---------|-----------------------|----------|
| 2,270,389 | 1/1942 | Straus et al. | 73/86 |
| 3,504,535 | 4/1970 | Cobb et al. | 73/86 |
| 3,922,903 | 12/1975 | Bornstein et al. | 73/86 |
| 4,566,335 | 1/1986 | Singhal | 73/856 |
| 4,704,903 | 11/1987 | Suga et al. | 73/865.6 |

FOREIGN PATENT DOCUMENTS

64-35346 6/1989 Japan .

OTHER PUBLICATIONS

Japanese publication: Japanese Industrial Standard JIS D 0205, 1987.

Japanese publication: Japanese Industrial Standard JIS Z 8730, 1980.

Primary Examiner—Donald O. Woodiel

Attorney, Agent, or Firm—Wenderoth Lind & Ponack

[57] ABSTRACT

A weather-fastness test method utilizing a novel sample holder and constituted by the steps of fixing the sample to the holder which is provided with metal coils the shape of which varies in accordance with the variation in the temperature of the ambient air and the radiation heat from a light source and which are connected so as to apply a force to the sample as the temperature changes, placing the sample under predetermined conditions, e.g. exposing the sample to radiation by light, to air having a temperature and humidity of predetermined levels, and to rain, while the sample is under repeated tension, compressive force and/or bending stress due to the variation of the shape of the coils and imparted to the sample, and then evaluating the weather-fastness resistance of the sample.

32 Claims, 6 Drawing Sheets

