

Title (en)
Illuminating cable

Title (de)
Leuchtendes Kabel

Title (fr)
Câble luminescent

Publication
EP 2395515 A1 20111214 (DE)

Application
EP 10165751 A 20100611

Priority
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Abstract (en)

The luminescent cable (10) comprises an optical and/or electrical conductor (12), which runs in a cable longitudinal direction and is surrounded by a luminescent sheath that is made of light-transparent plastic, is enclosed by a continuous cable outer sheath (20) made of light-transparent plastic and is displaced with a material of a signal-colored phosphor (18) over the entire cross-section. The cable line sheath (16) is made of a material, which is admixed to the signal-colored phosphor in the form of liquid or powder. The luminescent cable (10) comprises an optical and/or electrical conductor (12), which runs in a cable longitudinal direction and is surrounded by a luminescent sheath that is made of light-transparent plastic, is enclosed by a continuous cable outer sheath (20) made of light-transparent plastic and is displaced with a material of a signal-colored phosphor (18) over the entire cross-section. The cable line sheath (16) is made of a material, which is admixed to the signal-colored phosphor in the form of liquid or powder, so that the cable line sheath is uniformly displaced with pigments of the signal-colored phosphor. The signal-colored phosphor is made of a material, which is non-toxic and does not emit ionizing radiation. The pigments of the signal-colored phosphor have a grain size of 30-45 μm . The composition and grain size of the signal-colored phosphor are selected, so that the phosphor has constant luminosity after repeated and/or prolonged activation by electromagnetic radiation and so that the signal-colored phosphor absorbs energy of electromagnetic radiation with a wavelength of 200-450 nm. The cable line sheath consists of a compound, which is admixed to a portion of 5% of material of signal-colored phosphor. The conductor comprises an insulation layer and/or the cable outer sheath is made of a compound with polyurethane. The cable line sheath is 1-5 mm and the wall strength of the cable outer sheath is 1-5 mm, where the wall strength of the cable outer sheath is lesser than the wall strength of the cable line sheath. An inner layer is arranged between the conductor and the cable line sheath and reflects electromagnetic radiation with a wavelength of 200-780 nm. An outwardly reflecting outer layer is arranged between the cable line sheath and the cable outer sheath. The inner layer evaporator or coating or an optionally coated inner film lying onto the conductor or conductor insulation and/or the outer layer is an evaporator or coating or an optionally coated outer film lying onto the cable line sheath. The overlapped outer layer is provided with openings. The non-overlapped or winded outer layer is provided with openings and completely covers the cable line sheath or with a covering grade of 40-60%. The inner film and/or the outer film consist of metal or plastic coated with metal. The cable line sheath consists of a transparent compound made of polyvinyl chloride or polyurethane and/or the phosphor imparts a signal-colored coloring to the cable line sheath over the entire cross-section.

Abstract (de)

Leuchtendes Kabel (10) umfassend wenigstens einen optischen und/oder elektrischen Leiter (12), welcher in Kabellängsrichtung verläuft und von einem leuchtenden Mantel (16, 20) umschlossen ist. Erfindungsgemäss ist ein aus transparentem Material gefertigter Kabelinnenmantel (16) vorgesehen, der über den gesamten Querschnitt mit Material eines signalfarbenen Leuchtstoffes (18) versetzt ist und der von einem durchgehenden, Kabelaussemantel (20) aus lichttransparentem Kunststoff umhüllt ist.

IPC 8 full level
H01B 7/36 (2006.01)

CPC (source: EP)
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DE 3910053 A1 19901004 - GORE W L & ASS GMBH [DE]

Citation (search report)
• [X] DE 9211949 U1 19921022
• [X] JP 2004349077 A 20041209 - MISUZU SEISEN KK
• [X] JP H11288627 A 19991019 - TOKYO ELECTRIC WIRE IND
• [AD] DE 3910053 A1 19901004 - GORE W L & ASS GMBH [DE]

Cited by
DE102017207090A1; CN104637577A; IT202100029024A1; DE102017207090B4; US11898738B2

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