

PROVISIONAL PATENT APPLICATION under 35 U.S.C. §111(b)

Title: Color-Size Coded Drop Cloth System with Integrated Safety Features

Applicant: Hitching Post Revocable Living Trust — By: Michael J. Stephan, Trustee & Inventor

State: Michigan, USA

SECTION 1 — FIELD OF THE INVENTION

The invention relates to protective drop cloths used in painting, construction, renovation, industrial safety, and general floor-protection contexts. More specifically, it concerns a drop cloth identification and safety system in which each size of drop cloth is linked to a unique full-surface solid color, enabling instant recognition of size even when the cloth is folded, rolled, bunched, stacked, twisted, stuffed into a container, or partially deployed.

The invention further relates to optional functional enhancements including top-side safety features, glow-and-reflective perimeter edge warnings, bottom-side anti-slip mechanisms, moisture barrier layers, rip-stop reinforcement, raised spill-control perimeter with beveled geometry, modular hook-and-loop (Velcro) grids for expanding or customizing dimensions, inner liquid-absorbing layers, and optional tracking tags with sealed or replaceable batteries for deployment confirmation and security. Each enhancement supports the core invention rather than limits it.

SECTION 2 — BACKGROUND OF THE INVENTION

Standard painter's drop cloths are typically undyed or lightly colored canvas sheets. When folded, rolled, or bunched, different sizes appear identical. Contractors and users must repeatedly unfold or measure cloths to determine size, which wastes time and leads to frequent selection of an incorrect size. Oversized cloths in confined areas bunch up, wrinkle, and create ridges that increase trip hazards, while undersized cloths fail to protect the intended area.

Existing methods for identifying drop cloth size, such as printed corner labels, stitched tags, or small colored bindings, are easily hidden when the cloth is folded, rolled, or stacked. Tags and labels can tear off, fade, or become unreadable after repeated use and washing. As a result, there is no reliable, always-visible size identification system in current practice.

Safety issues also arise from conventional drop cloths. Typical cloths lack anti-slip backing, so they can slide on smooth flooring such as hardwood, tile, or sealed concrete. There is rarely any glow-in-the-dark or reflective perimeter marking to indicate cloth boundaries during power loss or low-light conditions, increasing the risk of edge-related trips. Conventional designs also offer little or no spill-control capability; paint, water, or chemicals can run off edges or through the cloth, potentially damaging floors and creating additional hazards.

Many job sites require coverage of irregular spaces—hallways, baseboard zones, room perimeters, stair runs, or areas around fixed columns and obstacles. Traditional fixed-size cloths are not modular, and overlapping multiple beige cloths provides no clear sense of where one cloth ends and another begins. Overlaps can shift, slide, and create uneven surfaces. There is no integrated system for modularly joining different sizes in a controlled, repeatable way while maintaining size-by-color recognition.

Additionally, there is typically no integrated method to track how and where cloths are deployed. Contractors may lose cloths, leave them at job sites, or be unable to prove that adequate floor protection was used. Existing cloths do not incorporate low-power electronic tags or similar features that can confirm deployment, assist inventory management, or provide digital evidence of protective measures.

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Accordingly, there is a need for a drop cloth system that:

- (1) uses full-surface color coding so that size is instantly identifiable from any viewing angle and under any folded or bunched condition;
- (2) integrates safety-oriented features such as anti-slip backing and glow-reflective perimeter edges;
- (3) offers optional spill-control and liquid-absorbing structures;
- (4) supports modular expansion using hook-and-loop attachment grids; and
- (5) can optionally include tracking tags to support deployment verification and inventory control.

SECTION 3 — SUMMARY OF THE INVENTION

The invention provides a color-size coded drop cloth system in which each distinct cloth size is assigned a unique solid color. The fabric is dyed before hemming so that the color permeates the full thickness of the material, and both faces present substantially the same color. As a result, the size corresponding to that color is visually identifiable even when the cloth is folded, rolled, bunched, twisted, stacked, or partially stuffed into a storage container. Identification does not depend on a small tag or corner label; instead, the entire surface acts as the size code.

In preferred embodiments, the top side of the cloth carries additional safety features such as high-visibility striping, chevrons, icons, or caution words applied over the solid color. These markings are intended to warn individuals entering the protected area that they are stepping onto a work-zone surface, but they are not used to convey regulated OSHA color meanings and are not used as size indicators. A glow-and-reflective perimeter is provided around the outer edge so that the cloth boundary is visible during sudden light loss or in dim conditions when illuminated by flashlights or other light sources.

The bottom side of the cloth can include a moisture barrier layer and an anti-slip mechanism. The moisture barrier, such as a polyurethane or PVC film, prevents liquids from passing through to the floor. An anti-slip pattern, such as dots, waves, ridges, or mesh made from silicone or a compatible polymer, is arranged across the bottom surface to resist sliding under normal walking loads. A rip-stop layer can be positioned between the fabric and the moisture barrier to prevent tears from propagating, improving durability and reducing the likelihood that damaged edges will create trip hazards.

In certain embodiments, a raised spill-control perimeter is positioned slightly inboard of the outer edge of the cloth. This perimeter can be formed from beveled foam or similar material that is adhered to the cloth and covered with a contrasting strip of fabric sewn down on both sides. The perimeter is tall enough to help retain spills up to approximately one quarter of an inch in depth, while the beveled geometry reduces the likelihood of a sharp edge that could contribute to tripping. An inner liquid-absorbing layer, using absorbent technology similar to that used in consumer absorbent products, may be included to hold and localize spills within the protected area.

The system may further include a modular hook-and-loop (Velcro) grid on the cloth surface and/or near its edges. This grid allows multiple cloths of various sizes and colors to be securely joined, overlapped, or expanded into larger configurations such as room-sized coverings, runners for baseboard painting, or shaped protections around obstacles. The color-size coding remains intact for each fragment or module, allowing users to recognize the size of each component even when assembled into a larger layout.

Optionally, one or more low-profile tracking tags may be integrated on the underside of the cloth, attached in small pockets or housings that interface with the bottom surface or moisture barrier. These tags may use sealed or replaceable batteries and can be configured to communicate with a mobile device or gateway so that deployment, location, and configuration of the drop cloths can be recorded or confirmed. The tags support evidence of proper floor protection, assist in inventory tracking, and can help deter or investigate loss or theft, without altering the fundamental color-size coding principle of the system.

In all embodiments, the full-surface solid color linked to a specific size remains the central inventive feature. All safety enhancements, spill-control features, modular attachment grids, absorbing layers, and tracking tags are configured to support and extend this core idea rather than to replace it.

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SECTION 4 — DETAILED DESCRIPTION OF THE INVENTION

A. Base Material and Dyeing

1. Canvas or poly-cotton blend, approximately 8–12 oz.
2. Fabric is pre-dyed before hemming for deep penetration, fade resistance, uniformity, and omnidirectional visibility.
3. Dye permeates the full thickness of the material; both sides present the same solid color.

B. Safety Markings (Top Side)

Top-side printed safety features may include:

stripes

chevrons

hazard icons

caution words

These markings:

do not convey OSHA-regulated meanings

are not used as size indicators

exist solely to improve safety awareness inside the drop cloth zone

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C. Glow-Reflective Perimeter

A narrow border applied around the edges featuring:

reflective material for illumination under light

glow-in-the-dark material for visibility during sudden darkness

This perimeter helps prevent edge trips, outlines boundaries in dim light, and supports safe navigation.

D. Anti-Slip Bottom Surface

The underside includes silicone or similar polymer patterns:

dots

waves

ridges

mesh structures

Spacing: approximately 0.25 inches apart.

The anti-slip layer assists traction and reduces sliding on smooth floors.

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E. Moisture Barrier

A thin film layer, such as:

polyurethane

PVC

Thickness: approximately 0.5–1 mm.

Prevents liquid penetration and protects floors.

F. Rip-Stop Reinforcement

A structural grid positioned between the dyed fabric and the moisture barrier. Its purpose is to:

prevent rips from spreading

extend cloth lifetime

reduce hazards caused by frayed edges

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G. Spill-Control Perimeter (Option A)

A raised foam perimeter, 6–14 mm high, positioned about 2 inches inward from the hem.

Features:

beveled foam edge

foam glued to fabric using fabric-safe adhesive

covered with a 3-inch contrasting canvas strip

strip sewn down on both sides

continuous perimeter ring

retains spills up to approx. 1/4 inch depth

improved visibility

reduced risk of sharp transitions

H. Hook-and-Loop Expansion Grid (Option B)

A modular system allowing expansion or joining of cloths.

Features:

1-inch Velcro points spaced in a grid pattern

positioned across the surface and along edges

grid allows secure overlap and custom shaping

grid does not replace or obscure size-by-color identification

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Examples of uses:

creating room-sized coverings

baseboard runners (approx. 1.5 ft)

assembling around fixed obstacles

I. Tracking Tags (Option B)

Bottom-mounted, low-profile electronic tags used for deploying, inventorying, or verifying use.

Two supported technologies:

1. Passive BLE Tags

short-range (10–100 feet)

no replaceable battery

low profile

2. Sealed-Battery Tags

long-range (hundreds of feet or more)

battery not replaceable

tag replaced when battery expires

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Tags send:

identity

size

deployment status

assembly pattern

timestamp

GPS position is supplied by the user's mobile device, not the tag.

J. Modular Fragment System (Optional Embodiment)

Drop cloths may be sold as fragments of different sizes and colors.

Each fragment:

uses the color-size system

joins via hook-and-loop points

retains individual identity

can form large or irregular configurations

can detach to create runners or partial-coverage cloths

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SECTION 5 — CLARIFYING STATEMENTS

1. Color equals size.

Each size is represented by one consistently assigned solid color.

2. Safety striping does not indicate size.

It is purely for workplace visibility and safety.

3. No OSHA meaning is implied.

Colors such as red, yellow, blue, green, and purple are used only as size identifiers or safety accents.

4. Spill perimeter height may exceed 1/4 inch.

Beveled geometry reduces trip hazards.

5. Hook-and-loop points are offset from hems to maintain predictable alignment and safety.

6. Tracking tags do not rely on orientation sensing.

They function via relative signal attenuation through the fabric.

7. No magnets are used.

Magnets are excluded to avoid interference with tools, electronics, or safety equipment.

8. Only dual handles are used.

No shoulder straps are included.

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SECTION 6 — CLAIMS

1. A drop cloth comprising a fabric sheet dyed in a solid color corresponding to a predetermined size, the dye permeating the entire thickness such that the size remains visually identifiable regardless of folding, rolling, or stacking.
2. The drop cloth of claim 1 including top-side safety markings.
3. The drop cloth of claim 1 including a glow-reflective perimeter.
4. The drop cloth of claim 1 including an anti-slip bottom surface.
5. The drop cloth of claim 1 including a moisture barrier.
6. The drop cloth of claim 1 including a rip-stop reinforcement layer.
7. The drop cloth of claim 1 including a spill-control perimeter.
8. The drop cloth of claim 1 including a hook-and-loop expansion grid.
9. The drop cloth of claim 1 including tracking tags.
10. A system of attachable fragments, each using the color-size system of claim 1.

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SECTION 7 — ABSTRACT

A protective drop cloth system in which each cloth size is linked to a unique full-surface solid color that remains visible even when the cloth is folded, bunched, rolled, or stacked. The system optionally includes safety enhancements such as high-visibility markings, glow-reflective edging, anti-slip backing, moisture barrier, rip-stop reinforcement, raised spill-control perimeter, modular hook-and-loop grids, liquid-absorbing layers, and electronic tracking tags. The invention improves safety, modularity, identification, deployment verification, and workplace efficiency beyond what is provided by conventional drop cloths.