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METHOD OF COATING INTERIOR SURFACES OF HOLLOW ARTICLES

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6 Claims. (Cl. 91—68)

This invention relates to a method of coating interior surfaces of hollow articles, and more particularly to a method of applying an abrasive coating to the interior surfaces of wire splicing sleeves.

An object of the invention is to provide a simple, inexpensive and efficient method of coating interior surfaces of hollow articles.

In United States Patent No. 1,827,297, granted October 13, 1931 to C. R. Moore, there is disclosed a method of joining the abutting ends of wires in which the joint is formed by inserting the ends of the wires into a metallic sleeve, the inner surface of which has been previously coated with a fine abrasive material, such as emery dust, after which the sleeve is forced into intimate contact with the wires, thus forming an exceedingly strong and durable joint.

In accordance with one embodiment of the present invention, there is provided a simple and inexpensive method of applying an abrasive coating to the interior surfaces of wire splicing sleeves of the type referred to. In pursuing this method, the sleeves are first tumbled with lacquer or other suitable adhesive to apply a coating of the adhesive to the interior surfaces of the sleeves. The adhesive is then removed from the exterior surfaces of the sleeves by tumbling them with rags or other suitable adhesive absorbent material. While the abrasive coating remaining on the interior surfaces of the sleeves is still moist, the sleeves are then tumbled with a powdered abrasive, such as emery dust, whereby a coating of the abrasive is applied to the adhesive coated interior surfaces of the sleeves, after which the sleeves are again tumbled with rags or other suitable material to remove the powdered abrasive from the exterior surfaces of the sleeves.

In practicing the embodiment of the invention above referred to, a plurality of parts to be coated, such as wire splicing sleeves, are first tumbled in a suitable tumbling barrel in the presence of a suitable adhesive fluid, such as lacquer. This tumbling operation is continued until the interior surfaces of the parts are substantially completely covered with the abrasive. The number of parts which may be so coated interiorly at one time may, of course, vary considerably so long as a satisfactory tumbling action is provided. Also, the quantity of adhesive fluid in the tumbling barrel may vary considerably so long as it is sufficient to completely coat the interior surfaces of the sleeves. It has been found that satisfactory results are obtained when the tumbling barrel is approximately half filled with the parts to be coated and when the quantity of adhesive fluid employed is by volume approximately one-fifth of the parts to be coated. Under these conditions, a tumbling period of approximately ten minutes has been found sufficient, although this may be varied so long as it is sufficient to satisfactorily coat the interior surfaces of the parts with the adhesive.

After the interior surfaces of the parts have been satisfactorily coated with the adhesive, as above described, the surplus adhesive fluid is drained therefrom. This may be accomplished by placing the parts in a perforated basket. The parts are than tumbled with rags or other suitable material capable of removing and absorbing the adhesive from the exterior surfaces of the parts. A tumbling period of approximately five minutes has been found to be sufficient for this purpose. If desired, this tumbling operation may be done in the same tumbling barrel that is employed for applying the adhesive coating, providing that the adhesive is first drained from the barrel. However, it has been found advantageous to use a separate barrel for each tumbling operation.

After tumbling with rags until the exterior surfaces of the articles are substantially free of adhesive, the rags are removed from the tumbling barrel and while the adhesive coating remaining on the interior surfaces of the parts is still moist or tacky, the parts are tumbled in the presence of a powdered abrasive, such as about 200 mesh emery dust or the like. This tumbling operation is continued until a suitable coating of the powdered abrasive is applied to the adhesive coating previously applied to the interior surfaces of the articles. A tumbling period of approximately ten minutes has been found to be sufficient for this purpose. The surplus powdered abrasive is then removed from the parts, for example, by shaking the parts on a screen, after which the parts are again tumbled with rags to remove abrasive still adhering to the exterior surfaces thereof. For this purpose, a tumbling period of approximately five minutes has been found to be sufficient. The parts are now ready for use and will be found to have their interior surfaces substantially uniformly coated with the powdered abrasive.

It will be understood that the embodiments of the invention herein described are merely illustrative and that the invention is not limited thereto, except as defined by the appended claims.

What is claimed is:

1. The method of applying an abrasive coating to the interior surfaces of wire splicing sleeves, which comprises tumbling the sleeves with lacquer to apply a coating of lacquer to the interior surfaces of the sleeves, then tumbling the sleeves with rags to remove the lacquer from the exterior surfaces of the sleeves, then tumbling the sleeves with emery dust to apply a coating of the emery dust to the lacquer coating previously applied to the interior surfaces of the sleeves, and finally tumbling the sleeves with rags to remove the emery dust from the exterior surfaces of the sleeves.

2. The method of coating interior surfaces of hollow articles having openings to their interiors, which comprises tumbling the articles with a coating material, and then removing the coating material from the exterior surfaces of the articles by tumbling the articles with an absorbent material which is of larger size than the openings in the articles and therefore incapable of entering the interiors of said articles.

3. The method of coating interior surfaces of hollow articles having openings to their interiors, which comprises tumbling the articles with an adhesive material, then tumbling the articles with a coating material and finally removing the adhesive and coating materials from the exterior surfaces only of the articles by tumbling the articles with an absorbent material which is larger than the openings in the articles and therefore incapable of entering the interiors of said articles.

4. The method of coating interior surfaces of hollow articles having openings to their interiors, which comprises tumbling the articles in an adhesive fluid, then removing the adhesive from the exterior surfaces only of the articles by tumbling the articles with pieces of absorbent material too large to enter the interiors of the articles, then tumbling the articles with a coating material, and finally removing the coating material from the exterior surfaces of the articles by again tumbling the articles with an absorbent material which is larger than the openings in the articles and therefore incapable of entering the interiors of said articles.

5. The method of applying an abrasive coating to interior surfaces of hollow articles having opening to their interiors, which comprises tumbling the articles with an adhesive material, then removing the adhesive material from the exterior surfaces only of the articles by tumbling the articles with an absorbent material which is larger than the interiors of the articles and therefore incapable of contacting the interior surfaces of the articles, and then tumbling the articles with abrasive particles.

6. The method of applying an abrasive coating to interior surfaces of hollow articles having openings to their interiors, which comprises tumbling the articles with an adhesive fluid, then removing the adhesive from the exterior surfaces of the articles by tumbling the articles with absorbent material which is larger than the interiors of the articles and therefore incapable of contacting the interior surfaces of the articles, then tumbling the articles with a powdered abrasive, and finally removing the abrasive from the exterior surfaces of the articles by again tumbling the articles with the absorbent material.

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