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(54) **Two-color yarn package center for spinning, package winding, twisting, dyeing an other machines**

Zweifarbiger Garnwickelkern für Spinn-, Zwirn-, Spul-, Färbe-Vorrichtungen und dergleichen

Support en deux couleurs pour paquets de fil pour métiers à filer ou à retordre, des bobinoirs, des machines de teinture et autres machines

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Description

Centers made of injection-molded synthetic resin for forming cores for the winding of yarn packages for handling in the textile industry, have been in use for some time now. At the end of the work cycle, these centers may be recovered or may be destroyed and are frequently recycled as recycled material to be used in the injection molding of further centers; recycling by molding offers the advantage of ensuring the serviceability of the new centers, as contrasted with the use of used centers which may become deformed.

The centers are almost always shaped differently at their two ends, for a variety of reasons; the packages must be formed on correctly oriented centers, and the formed packages must be placed - for later handling - in a specific orientation, which it is not easy to judge from the ends of the support which barely project from the mass of yarn forming the package.

The invention relates to a center made to facilitate the perception of the orientation of the center, by the ends barely projecting from the center, which operation may be carried out either by eye or by an automated system.

Document US-A-4 656 278 discloses a colour identification of the ends of a center, to facilitate and to check the orientation of the center. Documents US-A-2 961 715 and US-A-2 944 757 provide centers in plastic materials, which are made with a first molded piece in a first mold with a first operation of injection of plastic material, and with a second molded piece with a second injection operation against the first piece and to adhere thereon, utilizing a second mold.

The yarn package center - for handling purposes in spinning, package winding, twisting, dyeing, weaving and the like - is made of injection-molded synthetic resin and has one end of a different color from the opposite end, for the purpose of facilitating and of checking the orientation of the center and hence of the yarn package from which its two ends slightly project. In fact, the center may be checked easily by eye or by a chromatic sensor, owing to the color difference which is produced in the center. According to the invention, the center is molded in a sole piece with plastic material of two colors.

Where the center is of disposable type or is designed for once-only use with the material being reused after being ground down, it advantageously is made mostly of a dark material, in particular black, and of a material of contrasting color limited to a terminal portion and to the associated end. By this means the material recovered by the grinding and plasticizing of centers shaped in this way can be used directly as injectable material for forming the preponderant dark-colored portion of the new molded centers, with the addition, if necessary, of a colorant or strongly-colored resin.

The drawing shows a possible embodiment of the invention, and shows in particular a center of a conventional type in an external, partially sectioned view.

The accompanying drawing shows the center, which is indicated as a whole by 1, with a top end 1A and a bottom end 1B which differ slightly in shape and project slightly from the mass M of the yarn package which is cross wound onto said center. The two ends 1A and 1B project very slightly from said mass and therefore are already necessarily almost out of sight, and their shapes and sizes are quite difficult to tell apart, especially by eye. This makes it difficult to judge package orientation, which must be decided when the packages are being mounted on the various appliances for the handling and processing of the yarn gathered in package form on the center. Selection of the orientation may be entrusted to the operator or may be automated.

According to the invention, and as indicated already, the center 1 is to be made from two different colors of synthetic resin, which are indicated by 1X and 1Y. These colors are injected by methods which may be readily envisioned to obtain the support as a single piece formed from said two materials, which are more or less evenly separated along a line of separation indicated in the drawing by 1Z. The preponderant material, as regards quantity, which is shown in the drawing by 1X, advantageously is very dark or even black, while the material present in lesser quantity, shown in the drawing by 1Y, is of a more or less vivid color that is distinctly lighter than the color 1X, to provide very clear chromatic discrimination between the two ends 1A and 1B. Alternatively, in order to use as little as possible of the light-colored material, it is possible to inject this light-colored material into that end which is smallest in cross section and in dimensions, which in certain cases may be the end 1A rather than the end 1B of said center; in this case the appearance of the material 1X and material 1Y of the center would be the reverse of that illustrated in the drawing.

Very dark synthetic resin is used for the major amount rather than the light-colored resin because it is advantageous to be able to use the material recovered by grinding down centers that have already served as single-use centers in order to form the starting material for the molding of new, similar centers. The low presence of light-colored material, as at 1Y, as opposed to the preponderant presence of very dark material, as at 1X, in the ground material allows the recovered material to be used as the material for the formation of the preponderant dark-colored part, with the addition, if necessary, of colorants and/or new and very dark resin.

The foregoing achieves the advantages already indicated of ease of discrimination between the positions of the ends 1A and 1B of the centre owing to their chromatic differentiation, which may also be indicated automatically by a suitable chromatic sensor.

Claims

1. A yarn package center for handling purposes in spinning, package winding, twisting, dyeing, weaving and the like, made of injection-molded synthetic resin, having one end of a different color from the

opposite end, in order to facilitate, and to check, the orientation of the center and hence of the yarn package from which its two ends slightly project, characterized in that it is molded in a sole piece with plastic material of two colors.

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2. The yarn package centre as claimed in the preceding claim, of disposable type with the material being reused after being ground down, which center is made mostly of a dark material, in particular black, and of a material of contrasting color limited to a terminal portion and to the associated end.

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Patentansprüche

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1. Garnwickelkern für Handhabungszwecke beim Spinnen, Spulen, Zwirnen, Färben, Weben und dergleichen aus Spritzguß-Synthetikharz, der ein Ende aufweist, das hinsichtlich des gegenüberliegenden Endes eine unterschiedliche Farbe hat, um die Ausrichtung des Kerns und damit des Garnwickels zu erleichtern und zu überprüfen, über den seine zwei Enden geringfügig vorstehen, **dadurch gekennzeichnet**, daß er in einem einzigen Stück mit Kunststoffmaterial aus zwei Farben geformt ist.

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2. Garnwickelkern nach dem vorhergehenden Anspruch, der ein Einmal-Typ ist, wobei das Material nach dem Abschleifen wiederverwendet wird, wobei der Kern überwiegend aus einem dunklen, insbesondere schwarzen Material und aus einem Material mit einer Kontrastfarbe besteht, die auf einen Anschlußabschnitt und auf das zugeordnete Ende begrenzt ist.

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Revendications

1. Centre pour paquet de fil, destiné à la manipulation lors de la filature, de l'enroulement en paquet, du retordage, de la teinture, du tissage, et similaire, constitué en résine synthétique moulée par injection, présentant une extrémité d'une couleur différente de celle de l'extrémité opposée, afin de faciliter, et de vérifier, l'orientation du centre et, donc, du paquet de fil dont ses deux extrémités dépassent légèrement, caractérisé en ce qu'il est moulé d'une seule pièce dans une matière plastique de deux couleurs.

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2. Centre pour paquet de fil selon la revendication précédente, de type jetable, le matériau étant réutilisé une fois broyé, centre qui est constitué essentiellement de matière sombre, en particulier noire, et d'une matière de couleur contrastante limitée à une partie terminale et à l'extrémité associée.

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