METHOD FOR MANUFACTURING CARPET SAMPLES

Inventor: Stacey Williams, Chatsworth, GA (US)

Correspondence Address:
NIXON & VANDERBYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

Assignee: Mohawk Brands, Inc.,
Wilmington, DE (US)

Filed: Jul. 20, 2006

ABSTRACT

Standard yarns are tufted into a non-woven backing and the backing is rolled and stored. Upon receiving an order for a sample carpet, a length of the tufted substrate is cut as a function of the length of the required sample. The yarn ends of the tufted substrate are tied into a tufting machine and the machine tufts the yarns pulled from the substrate into a backing material. The tufted backing material is then further processed to form the sample.
Figure 1

Sample 28

Processing

Needle Bar 20

Tufting Machine 22

Tying 18

Substrate Discard or Reuse 24

Storage 16

Tufting Machine 12

yarns 10

14

16

18

20

22

24
METHOD FOR MANUFACTURING CARPET SAMPLES

FIELD OF THE INVENTION

[0001] The present invention relates generally to the manufacture of textile samples and particularly relates to methods for manufacturing tufted carpet samples.

BACKGROUND OF THE INVENTION

[0002] Textile manufacturers, e.g., carpet manufacturers, do not typically stock a wide variety of carpets. Except for those carpets that might be considered well known and basic carpets having a sales history of constant demand, most carpets are not readily available for sale and immediate installation. In many situations, a prospective customer may request a textile sample formed of a particular yarn and style. If the selected carpet has not been stocked, the requested sample carpet must therefore be manufactured as a custom sample. In order to manufacture such custom samples, standard carpet yarns are typically taken from multiple cones and blown into a tube creel. That is, the yarns, provided in individual packages, are placed on spindles of a creel and fed through tubes into the tufting machine. Those yarns from the creel are then tied to yarns at the entry to the tufting machine and a sample is manufactured, i.e., tufted.

[0003] On average, it requires approximately 20 minutes to perform this operation. Also, it has been difficult to estimate accurately the required length of yarn to make the sample in view of the preliminary steps necessary to place the yarns on the creel and tie those yarns into the tufting machine prior to tufting. Thus, a substantial quantity of yarn is wasted in the manufacture of samples. The waste per creel has averaged approximately 3-5 pounds of yarn. Accordingly, there has developed a need for a method of manufacturing a textile sample, e.g., carpet samples, in reduced time and without substantial process waste.

BRIEF DESCRIPTION OF A PREFERRED EMBODIMENT

[0004] In a preferred embodiment of the present invention, there is provided a method of forming a textile sample comprising the steps of tufting yarns into a non-woven substrate; removing the tufted yarns from the substrate; tying the yarns into a tufting machine; and tufting the yarns to form the sample.

BRIEF DESCRIPTION OF THE DRAWING

[0005] FIG. 1 is a schematic block diagram illustrating a method of manufacturing textile samples in accordance with a preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0010] It will be appreciated that the tufted intermediate substrate 16 must have uncut or closed loops in order for the yarns to be pulled through and from the intermediate substrate by the tufting machine. The intermediate substrate 16 that formerly held the yarns can then be discarded or reused as indicated at 24. Alternatively, after tying the ends of the yarns that had been tufted into the intermediate substrate, the intermediate substrate 16 may be pulled from the yarns prior to or during tufting of those yarns by the tufting machine 22 to form the sample.
The tufting machine 22 is preferably 1/8" gauge, 1/16" gauge, 1/32" gauge, 1/64" gauge, or 1/20" gauge. The sample tufted product 28 resulting from tufting machine 22 has the following preferred characteristics: the pile height (PH) preferably ranges from about 4/32 to about 20/32 with a nominal preferred height of about 13/32, the stitches per inch (SPI) preferably range from about 5 SPI to about 20 SPI with a nominal preferred SPI of about 15, and yarn deniers preferably range from about 600 denier to about 5000 denier. All conventional yarn systems can be used, e.g., twisted or air entangled, for creating the resulting sample tufted product. The resulting sample tufted product construction can be 100% loop, 100% cut loop, or combinations thereof.

The sample 28 is accordingly made from the intermediate substrate 16 without the necessity of passing the yarns through a creel. Moreover, the lengths of yarns needed to form the required sample are readily ascertained, accurate and applied to the tufting machine. In this manner, the length of time to form the sample is substantially reduced, i.e., the time is reduced approximately 85% as compared with the time necessary to produce a sample using a creel. Additionally, typical process waste, i.e., the yarn waste associated with typically processing sample yarns through a creel to form a sample, has also been reduced by about 85% using the foregoing preferred method.

While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiment, but on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

1. A method of forming a textile sample comprising the steps of:
   a) tufting yarns into a non-woven backing;
   b) tying ends of the yarns tufted into the non-woven backing into a tufting machine; and
   c) tufting the yarns tufted into the non-woven backing into a primary backing to form the sample.

2. A method according to claim 1, wherein step (b) includes pulling the tufted yarns from the substrate.

3. A method according to claim 1, wherein step (c) includes separating the tufted yarns from the tufted non-woven backing as the yarns are tufted to form the sample.

4. A method according to claim 1, including providing the non-woven substrate with tufted yarns in a pre-determined length as a function of the length of the sample.

5. A method according to claim 1, including performing steps (a)-(c) in sequence and, after step (a) and prior to step (b), storing the tufted backing containing the tufted yarn.

6. A method according to claim 1, including performing steps (a)-(c) in sequence and, after step (a) and before step (b), rolling the tufted backing to form a roll of backing containing the tufted yarns.

7. A method according to claim 2, including tying the pulled yarns into the tufting machine.

8. A method according to claim 1, including separating the tufted yarns and the tufted non-woven backing from one another.

9. A method according to claim 1, wherein the non-woven backing comprises 100% polypropylene, 100% polyester, 100% nylon, or combinations thereof.

10. A method according to claim 1, wherein the non-woven backing has a weight range of about 70 grams per square meter up to about 140 grams per square meter.

11. A method according to claim 1, wherein the non-woven backing has a nominal weight of about 120 grams per square meter.

12. A method according to claim 1, wherein the tufted non-woven backing has a loop construction.

13. A method according to claim 1, wherein the tufted non-woven backing has a pile height in the range from about 4/32 to about 20/32.

14. A method according to claim 1, wherein the tufted non-woven backing has a nominal pile height of about 13/32.

15. A method according to claim 1, wherein the tufted non-woven backing has a stitches per inch in the range from about 5 stitches per inch to about 20 stitches per inch.

16. A method according to claim 1, wherein the tufted non-woven backing has a nominal stitches per inch of about 15.

17. A method according to claim 1, wherein the tufted non-woven backing has a yarn denier in the range from about 600 denier to about 5000 denier.

18. A textile sample made by the method of claim 1.

19. A textile sample made by the method of claim 1 and having a pile height in the range from about 4/32 to about 20/32.

20. A textile sample made by the method of claim 1 and having a nominal pile height of about 13/32.

21. A textile sample made by the method of claim 1 and having a stitches per inch in the range from about 5 stitches per inch to about 20 stitches per inch.

22. A textile sample made by the method of claim 1 and having a nominal stitches per inch of about 15.

23. A textile sample made by the method of claim 1 and having a yarn denier in the range from about 600 denier to about 5000 denier.

* * * * *