

Understanding Hair Types And Formulating for 4C Hair

Dear Valerie: I work at a contract manufacturer and our innovation team just asked us about 4C hair and whether there was a product opportunity for that hair type. Aside from a brief Google search, I'm not entirely sure if I know what this hair type is and how to formulate for it. Can you help?

—JUST MY TYPE

Dear Type:

While we have been using terms like wavy, kinky, coily and helical to describe hair shape in published research since the 1930s, we didn't have a modern-day typing system until the 1990s, thanks to Andre Walker. Walker is most famous for being Oprah Winfrey's coily-coiffed hair stylist, and less famous for creating a hair typing system. That is, unless you're talking to a cosmetic chemist who works on the latest hair research—then his name is a household name.

In the 1990s, Walker launched his own haircare line, for which he created a classification system that categorized one's hair based on the degree of curl that it had in relationship to its fiber di-



Understanding Andre Walker's hair types can help formulate more targeted, effective products for consumers.

ameter. It has since been adopted as a universal system for categorizing hair. While it is commonly used in reference to hair that is curly or kinky, like 4C, it actually embraces all hair types.

According to Walker's original system:¹

- Type 1 hair is hair that is straight; it ranges from fine/fragile (1A) to coarse (1C). The most important characteristic of Type 1 hair is that it's naturally curl resistant.
- Type 2 hair is naturally wavy. It can still be fine/thin, have medium texture, or be coarse and frizzy, with varying degrees of curls. It would earn the designations 2A, 2B or 2C.
- Type 3 hair has graduated from wavy to curly, and a person with Type 3 hair either has loose curls (3A) or corkscrew curls (3B).
- Type 4 hair is considered kinky, with either tight coils (4A) or Z-angled coils

(4B). You can still find these original designations on Mr. Walker's website.

Since its inception, Walker's hair typing system has been further developed and refined by others to include A/B/C categories for each level, and some typing systems have expanded levels to include levels 5-8.² While there can be differences in the nuances of each level depending on which source you look at, for the most part, nearly all sources follow the same gist: the lower the number, the straighter the hair, and the higher the letter in the alphabet, the coarser or more coily strands. Again, these are generalizations, and the definition may vary depending on the source you're viewing.

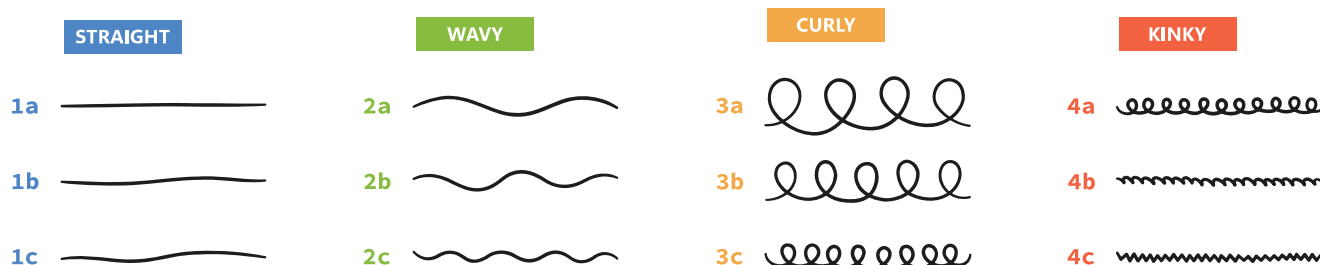
It's completely possible to have multiple hair textures on one head of hair. In the curly hair communities, you can meet individuals with three textures

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HAIR TYPES



Hair types range from 1a to 4c.

on one head of hair. I can only imagine what that's like to manage. It's also completely possible to change hair types as you age. I am a prime example. As a young child, my hair was distinctly 3A. As I aged, my hair became 2B. Now, as I continue to age, when I wear it natural, it looks like a lion's mane, 2C. I also think my hairline is reverting to 3A. It makes for wild looking buns when my hair is pulled back!

While the typing systems are almost subjective in their entirety, with the stylist or consumer analyzing their own hair and identifying with a hair type, it has spurred recent interest in research circles to see if it is possible to objectively determine hair type over geographical populations.³

MORE 4C RESEARCH EFFORTS

In 2006, L'Oréal sampled hair from 1,442 individuals in 18 countries. The goal was to look at various attributes of hair and see if would correlate to hair type. L'Oréal researchers evaluated curl index (the ratio of the length of hair when it is stretched, versus unstretched), the curve diameter (the smallest curvature of a hair curve), number of waves and number of twists. They identified eight different categories, and a 2007 follow-up paper from largely the same re-

search team evaluated 1,007 new hairs, on top of the previous 1,442, and tried to objectively classify hair types without referring to ethnicities historically used in describing hair, such as Asian, Caucasian and African.

Avlon Industries is researching physical properties of various hair types, like ellipticity and diameter, and whether or not they can be used as objective descriptors. Spoiler alert: their research shows that you can't use average ellipticity as an indicator, but you can use the coefficient of variation of ellipticity to do so.³

As hair is once again in the midst of a golden age of scientific research, especially on hair textures from individuals with skin of color or mixed origin, what does this mean to you as a formulator trying to create a product for 4C hair? I suppose the takeaway is that varying hair types in the Andre Walker-derived systems have different formulation needs. In hair of average health, someone with 1A hair may not be as prone to breakage or dryness as someone with 4C hair. Type 4C can feel dry, stiff (have less elasticity), and may be more porous to water. Understanding that 4C hair has these consumer perception hurdles different from other hair types will not only

help you formulate products to combat these challenges, but also develop a routine for 4C consumers to create hairstyles.

Before you head off to the bench, take note that a lot of information is already out there on products and routines that work really well for individuals with 4C hair. There is a plethora of curly hair forums discussing winning routines and products that are loved (and hated). No matter what lubricating, hydrating and not-too-strengthening-but-strengthening-enough product you formulate, make sure you conduct plenty of adequate real-life testing to make sure it's 4C approved. ■

References

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