



Stout is so opaque that its red hues take on a rich, deep brown color. Image Credit: Flickr user [a.dombrowski](#)

My best friend is a diehard IPA fan and up until recently, I'd never seen her drink anything darker than a red ale. Whenever I'd offer her a taste of Guinness, she'd always shake her head and say, "Dark beer is too heavy and bitter." One day, I decided to take her to one of Portland's annual beer festivals, hoping I could change her mind about dark brews. When we got there, the festival's dark beer list alone boasted close to 100 separate labels, ranging from porter to stout. After a lot of persuasions, she agreed to try the black lager that I recommended. She took a sip, raised her eyebrows in surprise and said, "I had no idea that dark beer could taste this light!"

Beer opacity has a massive impact on how drinkers perceive your brew's flavors. Your customers usually look at the [color of the brew](#) and how translucent it is before they consider any other factor

like smell or taste. That's why it's so important for breweries to ensure that the opacity of their beer matches its traditional style, giving customers the best impression before they take their first sip.

### Why is Stout So Opaque?

Like coffee, beer opacity often comes from how long you roast the ingredients. Generally, a [dark roast](#) will give you an opaque, almost jet black beer that tastes like coffee or chocolate, whereas a light roast will give you a golden, translucent color and "breadier" flavors. However, it's not always this simple. If your brewery uses black patent malt<sup>1</sup>, you'll also get a dark opacity in the final brew, but the flavors will be completely different than a heavily roasted barley beer. Stout brewers use trace amounts of black patent malt to give the beer a deeper color while retaining light, bready flavors underneath. This is why that black lager that my friend tried tastes more like a Belgian pale ale than a frothy glass of chocolatey stout — the opacity of the beer has little to do with how it actually tastes.



How long you roast the barley and the type of malt you use can impact the beer's opacity. Image Credit: Flickr CC user [Dylan Stark](#)

### Your Customers Taste With Their Eyes First

Your consumers expect certain beer styles<sup>2</sup> to be as opaque as possible, regardless of whether it tastes roasted or not. The reason why Guinness tastes sweet and creamy, rather than bitter, is because it doesn't come from the darkest roast possible. When you hold this stout up to the light, you can see a light reddish hue<sup>3</sup> around the edges. Guinness isn't actually black, but rather, it's a naturally red-colored brew that has significant opacity. The contrast between the almost-black base

and the white, frothy head has given this beer a loyal fan base. If you were to make the beer less opaque (rendering it completely red), your customers might find it off-putting, even if the flavors remain the same.

Traditionally, stouts, porters, black lagers and dark malts all range from dark chestnut to pitch black<sup>4</sup> in color, yet they taste very different. The lager is the darkest of them all, but it has the lightest flavors, while the porter can take on a brown hue and still taste extremely heavy. You'll need to retain these [traditional colors](#) in your own brew if you want to appeal to fans of each of these darker styles. We make judgments about the color of a beer before we ever taste it, and you can use this to work in your favor. If you want your customers to know that they're getting a rich, coffee-like brew, you'll want an intense opacity to match. Or, you can go the route of the black lager, looking fierce and formidable, but actually tasting like a delicate ale. This play on contrast could be very appealing for your customers.



Consumers expect stout to have a dark coloration and intense opacity, even if the beer itself tastes lighter than it looks. Image Credit: Flickr user [Bernt Rostad](#)

### How to Measure Dark Beer

As we've seen with Guinness, it's hard to tell how opaque a beer is, or what its natural color should be based on sight alone. You'll have to hold the beer up to the light to see hints of color in a dark brew, and even then, your eyes can easily trick you. The best way to measure your beer's opacity and color before you release it on the market is to use a spectrophotometer. You'll need an instrument designed specifically for [opaque beverages](#) since you're working with stouts and other dark brews. The specific model depends on the scale of your brewery operation.

If you just need a portable, easy-to-use instrument that can accurately detect beer color the way that the human eye sees it, consider using the [ColorFlex EZ Spectrophotometer](#). This is the best option for brewers who want to ensure that their beer will look appealing to customers from the moment it hits the glass. It can also help you see the real color of the beer through its opacity. For brewers who need a stronger instrument with a greater diversity of features, the [UltraScan VIS](#) will likely be a better fit. This model measures transmission haze in addition to transmitted color and handles opaque liquids especially well. Using either of these instruments will ensure that your dark beers remain consistent in color from batch-to-batch and that they are the best possible representations of their distinct styles.

To learn more about how you can use spectrophotometers to make your dark beer truly stand out, contact our expert staff at HunterLab. They can help you find the perfect instrument for all of your brewing needs.

1. "Black patent malt," [http://www.homebrewtalk.com/wiki/index.php/Black patent malt](http://www.homebrewtalk.com/wiki/index.php/Black_patent_malt)
2. "Beer types," <http://www.thebeerstore.ca/beer-101/beer-types>
3. "Stout Beer: A Tale of Dark Ale," 2008, <http://www.99bottles.net/beer-2/stout-beer-a-tale-of-the-dark-ale/>
4. "Beer Hues in Lovibond Units," <http://kotmf.com/articles/color.php>