Building Letters & Signs: CONTRAST & VIEWING ANGLE

Part 1- How Can Shadows Impact Sign Readability?

Customers will often come to us for help with channel letters. "Channel letters" is the term for three- dimensional fabricated letters and logos that light up internally. Sometimes they are mounted directly to the wall surface, and sometimes they are mounted on a raceway that is mounted to the wall. The "faces" of the letters are the flat part of the fronts that usually light up at night, and the "returns" are the edges of the letters that go back to the raceway or wall. Channel letters are mostly used for retail store identification at strip centers, malls and stand-alone stores. They are excellent ways to brand a building, whether a jewelry store, a bank, a hotel, a restaurant or a grocery store. They are also used by hospitals to identify emergency rooms, and colleges use them to identify the buildings on campus. When designed right, the three dimensional quality of channel letters makes them eye-catching and appealing to passing pedestrian and vehicular traffic. Channel letters aren't limited to storefront walls. They can also be utilized to add depth to otherwise monolithic monument and pylon signs.

Three elements of design that can make a set of letters ineffective are: poor contrast between letter and wall color during day or night; areas in open centers of letters that attract nesting birds; and insufficient viewing angle. Many times a client will tell us, "I don't like my current sign, but I can't tell you why." The skilled sign designer can immediately see the problem. Such is the case when channel letters are not designed with cast shadows in mind.

Like with any sign, establishing the best contrast between the sign graphics and the background is the key to readability. During the morning hours on clear days, just as customers are beginning to make their way to various retailers, the sun is casting long and dark shadows on the channel letters of the world. Depending on their design, this can either create negative or positive readability. If the letter faces are white, the shadows usually help the letters pop out from a light or dark colored wall. If, however, the background walls are light color and the letters are dark without an outline, the effect of the shadows can make it nearly impossible to read because the letters and the shadows will all blend together (see example 1). The shadow challenge can be overcome by incorporating light color faces with outlines and dark returns.

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The shadows on these wall letters create an illegible brand for this retailer.

Another design strategy of a good channel letter design is to keep the widths of letter strokes wider than the shadow it will cast so it will help with legibility in bright light and shadows. From an engineering view, wide strokes are usually necessary to economically build channel letters and install lighting evenly within them. Also, the width of the lettering affects the viewing angle at which the lettering can be read. The wider the stroke of a letter, the wider the horizontal viewing angle. Viewing angle is important for the visibility of your sign by potential customers passing at close proximity of your storefront. Don't miss: "Part 2- Consideration of Viewing Angles" in August, 2013 and "Part 3- Choosing the Right Font for Your Application" in September, 2013.

This retail store's channel letters were designed with white letters and black outlines and returns to prevent shadows from distorting their readability on bright, sunny days.

"...the design you see on paper can be different from the final product on the wall."

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Part 2- Consideration of Viewing Angles

The simple design elements of "wide strokes" and "getting to the point" are in a nutshell, part of the formula for good, readable channel letters. If a store is located in a strip mall with an internal parking lot off the main road, then viewing angle considerations in channel letter design should be considered to effectively keep the traffic's attention as it approaches the store. Unfortunately, many times a store sign becomes unreadable at wide angles.

The term "viewing angle" in sign design these days has different meanings depending on the sign media you're talking about. When talking about channel letters, we can define viewing angle as the area where people can effectively read a set of letters. Illuminated letters may have a different viewing angle in the day from the viewing angle at night, and it is always a good idea to take a look at other signs in your commercial neighborhood prior to ordering one for your organization to see what works best and what doesn't.

We will focus on one of two types of viewing angles. The vertical viewing angle measures readability of signs high off the ground. This is a necessary consideration for letters on high-rise buildings, but most retailers with one story buildings will focus on horizontal visibility. The horizontal viewing angle is the area of view in which the sign can be easily read from points left to right of the sign. Notice that horizontal viewing angle gets wider the farther you move away from the sign, therefore vehicular traffic passing on a main roadway parallel to the sign will have a greater viewing distance than pedestrians or vehicles in the parking area passing right by the front of the store. This is important to remember because while your sign may be legible from the road to lure traffic in, when they get to the row of stores where they thought you were, they have a difficult time picking up your sign closer in because of the narrower viewing angle.

The two examples above demonstrate designs that have adequate horizontal viewing angles from the main road, but only one continues to be readable from close quarters. The reason for the difference is design. The one with the widest viewing angle uses a font with a wide stroke and minimum words. The other uses a narrow stroke font and crowds too many words together on one line. As you approach this sign from angles other than straight-on, the letters will eventually run together the closer you get to the store, making it ineffective in getting the attention required.

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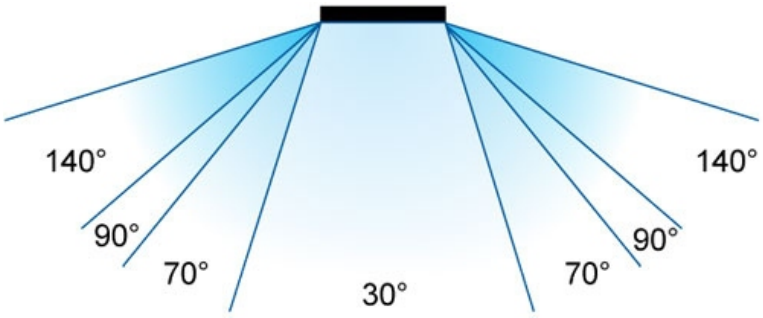
Horizontal Viewing Angles of two stores. The store on the left utilizes fewer words and uses a wide-stroke font that makes it much clearer than the other example as customers approach from either side of the store entrances.

Both examples work fine for more straight-on viewing, but as soon as the viewers travel left or right of each store entrance, only the store on the left's sign will still be readable. As always, simpler is better!



"...use a sign company that understands real-life customer viewing conditions."

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Part 3- Color Contrast

From a recent survey of our newsletter subscribers, here are the top reasons sign buyers within a 150-mile radius of Richmond, VA purchase electric signs:

- Attraction of Customers
- Stand Out Over Local Competitors
- Customer Interaction with Brand

Since the top reasons customers invest in signage involve maximizing visibility, how should the sign designer address effective color combinations?

Do's & Don'ts of Color Contrast

Do choose lighter tone backgrounds for darker tone logos and vice versa. Don't choose background/graphics colors that lie next to each other on the color wheel unless they are outlined or backed up with a better contrasting "cloud" color. This should be clear in the following examples:

Notice the contrast change of the logo from white to red. The white has good 24-hour visibility on the copper background, while the red lacks punch during the daytime due to poor contrast even with the black letter returns.

Here is a good example of how outlines and "cloud" backgrounds help push white letters from white backgrounds. Notice how the "Ollie's" sign lacks the visibility of the "Great Clips" which has the black "cloud" to separate the whites of the graphic and wall.

Since many signs are individually mounted channel letters and logos on buildings or monument walls made of brick, stone, or tinted stucco materials, you need to pay close attention to color combinations to achieve the best result. (If you're branding a regional chain of stores, the same sign design will not necessarily fit every building application.) Other things to consider in initial design are:

Here are examples how blues can lose their impact when placed on dark backgrounds. The "MedExpress" brand loses punch over the blue tile accent stripe of the previous Blockbuster building in Lynchburg. A better solution may have been white letters with blue returns.

The triangular and swish elements of the nTelos brand lose visibility when placed upon the black background of the sign cabinet's face. Utilizing black letters and blue triangle/swish colors on a white background framed in black would have been more consistent with the corporate brand plus would offer greater visibility of a recognizable brand.

- **Degree of cast shadows** that can either help or hurt the color combination;
- **Potential of using outline colors** or "clouds" around the letters to improve contrast;
- **Night-time conditions** and lighting where background and/or graphics colors change;
- **Adjusting shades and tones** of the colors to make them work.

In summary, choosing the right color combinations for your signage is one important element of effective branding leading to customer attraction and retention. Holiday Signs can help!

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For "Sticks Kebob Shop," we made typefaces heavier than those used in print. Most of the time graphics should be beefed up when used in signage that is viewed from sizable distances compared with print ads and menus. Notice how the main name is a serif font and the secondary wording is sans-serif creating interesting contrast. Also, notice the contrast in outline colors that helps the "Kebob Shop" words stand out even with the huge difference in letter height.

Notice how the colorful and playful "Pediatrics" graphic gets attention from contrasting type on this sign that is shared by several tenants. The specialized typestyle separates the pediatrician's office from the two other professional offices at the complex. Patients interested in medical services for children immediately recognize the office location, and those not looking for pediatrics quickly disregard it and focus on the other choices thus making "type contrast" an effective wayfinding tool.

The sign for Ironbridge Sports Park contains a main header, changeable message component, and shared tenant panel. Contrasting type used for each section helps separate the sign's three parts, allowing people to focus first on the overall ID and branding, then on current or upcoming features and special events, and tenants. Creative type, shape and colors for the main sign along with a unique structure that ties all the contrasting elements together were key to making this an effective design.

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Part 4- Contrast in Text

Part of Graphic Design Toolbox

Effective sign design utilizes contrasting text colors, sizes, shapes, locations, or relationships for specific reasons.

- Creates Interest vs Monotony
- Captures Attention of Target Market
- Establishes Brand Value Perception (Low or High)

Achieving Good Text Contrast

Contrast in type style is achieved by mixing serif and sans-serif letter styles, and by using graphics in creative and unique ways.

The designing of exterior branding signage must take into account design factors not considered in print design:

- Day/night viewing
- Architectural wall materials (brick, stucco, glass, etc.)
- Site background elements (greenery, urban landscape, sky, etc.)

Creating good contrast while staying in line with environmental aesthetics can get tricky.

The design team at Holiday Signs regularly helps organizations design attractive signage with text that gets 24-hour attention while staying in synch with all this and more.

To the left are three examples of how we have successfully used contrast in type.

"Contrast in typography is one important element of good sign design."

Contact us today:
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