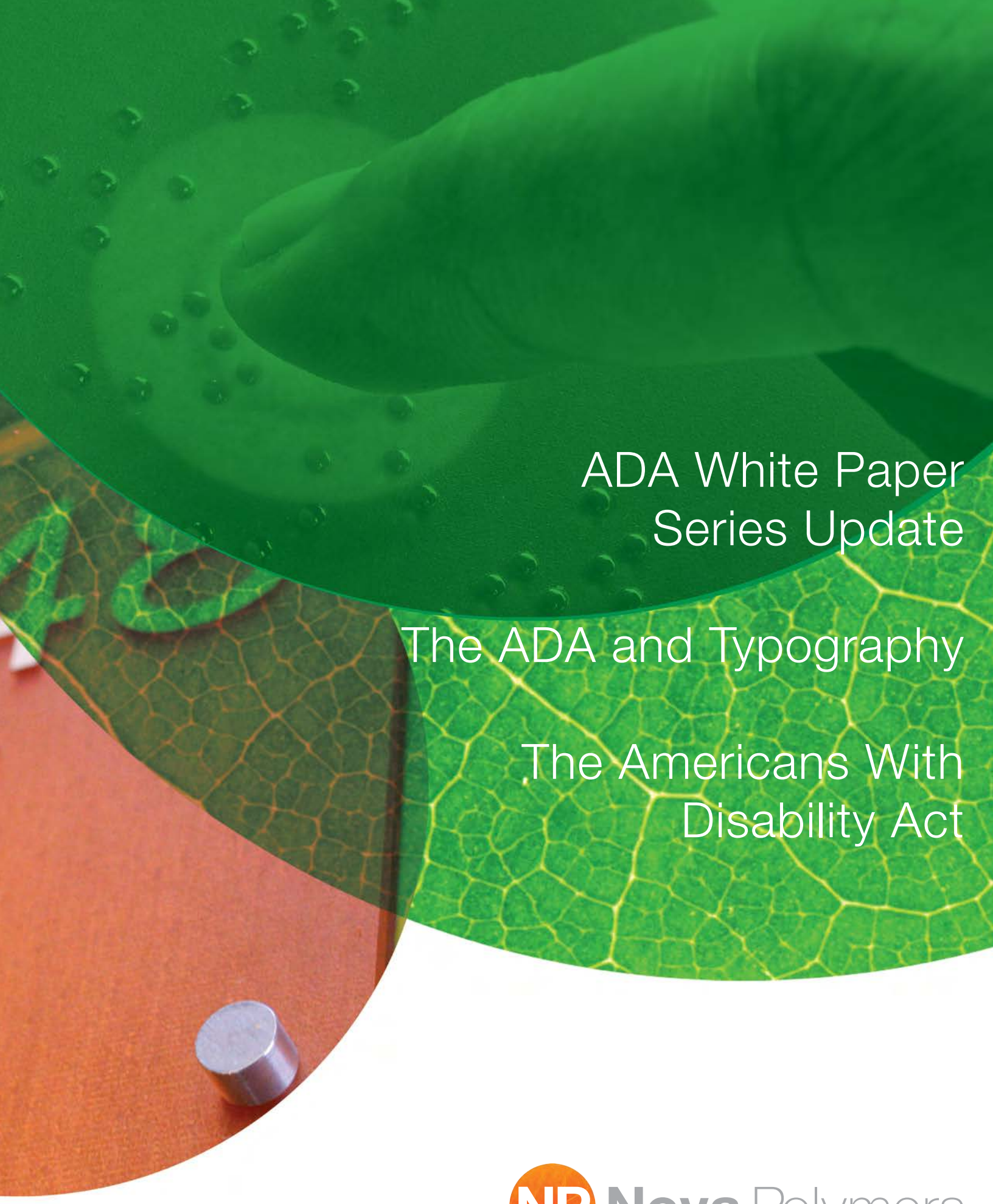

ADA White Paper Series Update

The ADA and Typography

The Americans With Disability Act

Nova Polymers

The ADA is designed for people who have a wide spectrum of visual impairments including blindness. The ADA was updated in 2010 to differentiate between the needs of the blind and the visually impaired. This substantial change required different regulatory approaches for signs as well as delineation/ designation of the specific places where signs for the blind need to be used. Type is the area where these differences are the most dramatic. This paper will focus on how type in the code was separated to handle the needs of distinct groups and how signs for these two groups can be brought together.

Type for the Blind

The goal of the ADA for blind users is to create a consistent experience for the user across all signs, resulting in extremely tight standards for type to minimize most differences in style, stroke and height. These regulations are only employed on signs identifying permanent locations and are not applicable to the broad range of interpretive, informational and directional signs.

Letter Type, Height and Stroke Width

Tactile letters are highly restrictive to ensure that the blind can be familiar with how most letter feel. Most blind people were not born blind and cannot read Braille so effective tactile letters are important. This means the following:

- Decorative and script letter styles and bold letters should not be used. The blind can only read letters that follow the simplest letter styles. Nearly all others are unreadable. Type also cannot be too fat or too thin.
- Upper and lower case type are better for visual readers but must be avoided with tactile letters.
- Letter height needs to be inside a very narrow band (5/8" to 2"). Letters that are either too small or large are difficult to read by touch.
- Stroke widths must be very thin (less than 15% of the letter height to be easily read by the blind).
- Kerning (or spacing) follows a very strict approach with 1/8" minimum separation between the top of the raised letters (type can have variable kerning as long as the 1/8" minimum is kept). The type also must be 3/8" or more away from any raised surface or edge.
- Multiple lines of text are discouraged, but if used there should be a 3/8" minimum separation between raised letters.

Tactile elements can be almost invisible on a visual sign but they must follow very restrictive standards.

What this approach produces are letters and numbers that have barely any distinct characteristics and that is by design. The ADA code is a clear effort through restrictions to make type that feels identical for the blind in nearly any setting.

Recommendation for designing with tactile type

Tactile information needs to be kept simple to be effective including using address systems wherever possible.

- Have a small number of fonts to draw from for tactile letters and numbers (Helvetica, Frutiger, Futura, Franklin Gothic, Clearview, Verdana, are Avant Garde are among the most popular).
- Make sure to design signs large enough to handle the space needed for tactile type. A 6" wide sign can handle only about 7 5/8" characters to ensure separation between all tactile elements.
- Have a consistent approach to using tactile type. Avoid any variability in type.
- If planning on developing a distinctive sign identity program, leave tactile letters (with Braille) as non-contrast background information with larger visual type getting a more prominent role.
- Limit tactile information only to room addresses in most cases (bathrooms and equipment rooms being major exceptions). Tactile information should be as brief as possible. The blind follow a logic when navigating environments and address based hierarchies provide a crucial support for wayfinding.
- Keep logo and branded information (both allowed on identification signs) at a distance from the tactical area.
- Use a type like Futura or Frutiger that has minimum variability in the kerning to keep raised tactile messages as consistent as possible.

Specific Codes Governing Letter Height, Style, Stroke Width, and Kerning

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I"

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

Type and Pictograms for Visual Readers

Visual readers have completely different needs from tactile readers. Their focus is on legibility and variety. Instead of the tight standards of tactile letters the ADA has fewer regulations governing visual letters (though these are still important to follow). The visual ADA codes are applicable to all signs though including temporary and permanent directional, informational, safety and identification signs. The code also includes rules for pictograms.

Visual Type

- Upper and lower case type is allowed.
- Nearly any type is allowed but san serif or serif with simple flourishes is encouraged.
- Letter heights are defined by distance with 5/8” being the minimum size for signs meant to be seen from 6’ away or less (mainly identification signs) to 3” or more (for directional signs seen from great distances).
- There is still no specific calculation for minimum color contrast with legible type, but signs must have a non-glare finish (This is not matte but specific non-glare coating.).
- Pictograms do not have to be tactile or a minimum size but must be in a field that is 6” minimum.
- A text descriptor must go along with a pictogram. These must be tactile on identification signs.
- There are four pictograms that must be used exactly as the code delineates. The most important of these is the International Symbol for Accessibility.

Type size in the ADA are based on minimum height and non-specific contrast. It is important to based legibility on the unique needs of the facility.

Recommendations for Designing with Visual Type

- Even though there is a wide variability of type that can be used on visual signs it is important to keep a consistent palette for all sign types. Visual readers can sustain must greater variability than the blind, but consistency inside of facilities still aids greatly in wayfinding.
- Rule for visual type heights are based on minimum heights. It is important to select visual letter heights based on unique environmental needs.
- Many factors related to sign contrast besides colors. This includes illumination, shadowing, and material differences.
- Glare is a significant issue with visual signs using materials like aluminum or steel. It is important to specify a non-glare finish.

Specific Codes for Visual Type

703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "I".

from Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than, or equal to 70 inches (1780 mm)	Less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	Less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
Greater than 120 inches (3050 mm)	Less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.

703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4

703.7.2 Symbols.

Figure 703.7.2.1 International Symbol of Accessibility

Figure 703.7.2.2 International Symbol of TTY

Figure 703.7.2.3 Volume Control Telephone

Figure 703.7.2.4 International Symbol of Access for Hearing Loss

Can Visual and Tactile Type Work Together?

With such distinct needs between tactile and visual type, it is difficult for these two approaches to work together on the same sign. When designing a wayfinding program there are two approaches that can be taken to make visual and tactile work together.

One Consistent System

One consistent system using tactile and visual letters together can be used. This generally means that the tactile letters must maintain a minimal height and also have a high contrast. To be truly effective, these identification signs must also be consistent with other signs in the environment sharing similar type (these can be altered in the visual environment) and colors.

One consistent approach is very restrictive but also effective.

Dual Signs

Dual signs are referred to in the code under 703.1 which specifically calls for separate visual and tactile information when needed. This has not been commonly used except for facilities where large scale visual elements are required (airports and Stadiums being notable examples) even though dual signs allow for great flexibility. The code even allows tactile letters being a minimum ½" in size with dual signs meaning that the tactile section of the sign can be extremely small.

Dual signs shine in airports and other public spaces that require large scale design elements.

Specific Code for Dual Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.