

SPECIFICATION GUIDE

Corporate Office:
ASI Sign Systems, Inc.
8181 Jetstar Drive
Irving, Texas, 75063
(214) 352-9140 voice
(214) 352-9741 facsimile
(800) ASI-SPEC [274-7732]
<http://www.asisignage.com>
marketing@asisignage.com

SECTION 10440 INTERIOR SIGNS – PUZZLE™ SERIES

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Welcome to ASI Guide Specification System! ASI has prepared this guide specification in printed and electronic media, as an aid to specifiers in preparing written construction documents for interior signage using arched face construction.

Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [_____] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. They should be removed before the section is printed for use.

This guide specification is based on the Construction Specifications Institute (CSI), Section Format standards. References to section names and numbers are based on MasterFormat 95. For specification assistance with specific product applications, please contact the offices above. Detailed technical information, including available sizes, may be obtained from ASI corporate website at www.asisignage.com

ASI Sign Systems, Inc. reserves the right to modify these guide specifications at any time. Updates to this guide specification will be posted as they occur. ASI makes no expressed or implied warranties regarding content, errors, or omissions in the information presented. Specifications modified or rewritten in excess of supplier's standard processes, products, and procedures may void warranties and related remedies. Contact the offices above regarding modifications and addition of new text.

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1. GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established within the General and Supplementary Conditions of this Contract, Division 1 – General requirements and the Drawings are collectively applicable to this Section.
- B. Section Includes:
 - (1) Puzzle™ Interior window signs and directories with panel body, header panels and base panels made of Acrylic. Male and female Jigsaw™ components, made from ABS plastic, together with a left and upward motion facilitate the locking of the system without tools or keys.
 - (2) Puzzle™ Monoliths consist of Interior window signs mounted on aluminum monolith structures.

(3) Puzzle™ Interior Suspended and Projecting Flag Mount signs manufactured from stainless steel, frosted acrylic wood veneer or painted aluminum.

ASI has a complete line of signage products for the entire facility, including interior and exterior signs, dimensional letters, and directories. Many interior signs are updateable by the facility manager. Edit the Related Sections paragraph below to suit project requirements; delete sections that will not be used.

A. Related Sections

Section 10410	Non Illuminated Interior Directories	Series 440
Section 10410	Non-Illuminated Interior Directories	Series 470
Section 10410	Non-Illuminated Interior Directories	Series 490
Section 10410	Illuminated Interior Directories	Series 530
Section 10410	Illuminated Interior Directories	Series 560
Section 10410	Illuminated Interior Directories	Series 570
Section 10420	Cast Plaques	Cast Plaques
Section 10440	Interior Signage - Photochemically-Etched ADA Signs	SignEtch I
Section 10440	Interior Signage - Photochemically-Etched Plaque Signs	SignEtch II
Section 10430	Dimensional Letters - Fabricated Metal	LF Series
Section 10430	Dimensional Letters - Cut Metal	LPS Series
Section 10430	Dimensional Letters - Cast Metal	LC Series
Section 10430	Dimensional Letters - Metal-Laminate Acrylic	LPL Series
Section 10430	Dimensional Letters - Molded Plastic	LM Series
Section 10430	Dimensional Letters - Precision Cut Acrylic	LPP Series
Section 10440	Dimensional Letters - Cut Vinyl	LTV Series
Section 10430	Specialty Signs – Simulated stone materials	Simulated Materials
Section 10430	Specialty Signs –hardened enamel or porcelain materials	Porcelande™
Section 10430	Exterior Fiberglass Signs - 4 Sided Non Illuminated Monolith	Series 940S
Section 10430	Exterior Fiberglass Signs - 4 Sided Non Illuminated Pylon	Series 840R
Section 10430	Exterior Fiberglass Signs - 3 Sided Non Illuminated Monolith	Series 930S
Section 10430	Exterior Fiberglass Signs - 3 Sided Non Illuminated Pylon	Series 830R
Section 10430	Exterior Fiberglass Signs - 2 Sided Non-Illuminated Monolith	Series 920
Section 10430	Exterior Fiberglass Signs - 2 Sided Non Illuminated Pylon	Series 820
Section 10430	Exterior Fiberglass Signs - 2 Sided Non Illuminated Monolith	Series 920CF
Section 10430	Exterior Fiberglass Signs - 2 Sided Non Illuminated Pylon - Curved Face	Series 820CF
Section 10430	Exterior Fiberglass Signs - 4 Sided Illuminated Monolith	Series 1140S
Section 10430	Exterior Fiberglass Signs - 4 Sided Illuminated Pylon -	Series 1040R
Section 10430	Exterior Fiberglass Signs - 3 Sided Illuminated Monolith -	Series 1130S
Section 10430	Exterior Fiberglass Signs - 3 Sided Illuminated Pylon -	Series 1030R
Section 10430	Exterior Fiberglass Signs - 2 Sided Illuminated Monolith -	Series 1120
Section 10430	Exterior Fiberglass Signs - 2 Sided Illuminated Pylon -	Series 1020
Section 10430	Exterior Fiberglass Signs - 2 Sided Illuminated Pylon - Curved Face	Series 1020CF
Section 10430	Exterior Fiberglass Signs - Non-Illuminated Post and Panel	Series 820
Section 10430	Exterior Fiberglass Signs - Illuminated Post and Panel	Series 1020
Section 10430	Exterior Fiberglass Signs - Illuminated Wall Mounted	Series 1014
Section 10430	Exterior Fiberglass Signs - Non-Illuminated Wall Mounted	Series 814/825
Section 10430	Exterior Aluminum Signs - Post and Panel	2100 Series
Section 10430	Exterior Aluminum Signs - Post and Panel	2300 Series
Section 10430	Exterior Aluminum Signs - Post and Panel	2400 Series
Section 10430	Exterior Aluminum Signs - Post and Panel	2500 Series
Section 10430	Exterior Aluminum Signs - Curved Face	Pacific Exterior
Section 10430	Exterior Aluminum Signs - Interchangeable Components	Compass
Section 10430	Exterior Aluminum Signs - Flat Face	Messenger Exterior
Section 10440	Interior Unframed Signs	Series SP
Section 10440	Interior 4 Sided Framed Signs -	Series 320/390
Section 10440	Interior Unframed Signs - Plastic Laminate or Acrylic with Raster Braille	InTac
Section 10440	Interior Unframed Sign – Photopolymer Bonded to Acrylic	InTouch
Section 10440	Interior Unframed Signs - Photopolymer Bonded to Plastic Laminate/PETG	Intouch 2
Section 10440	Interior Door Signage - Thermoformed Resin - InForm	
Section 10440	Interior Unframed Signs - Embossed (EmBoss)	EmBoss
Section 10420	Interior Updateable Signs	WS Series
Section 10440	Interior Updateable Signs -	Inhouse™ Classic Series 380
Section 10440	Interior Room Control Signs -	SL Series
Section 10440	Interior Directional Signs -	PMA Series
Section 10440	Interior Overhead Signs -	PAP Series
Section 14440	Interior Desk Signs -	200 Series
Section 10440	Interior Modular Interchangeable Signs - Interior 20	Interior 20
Section 10440	Interior Modular Interchangeable Signs - Infinity	Infinity

Section 10440	Interior Modular Component Signs - Flat Face	Messenger Interior
Section 10440	Interior Modular Interchangeable Signs - Curved Face	Pacific Interior
Section 10440	Interior Aluminum Extrusion Sign with Changeable Insert	Venus
Section 10440	Interior Aluminum Extrusion Sign with Changeable Insert	Horizon
Section 10440	Interior Aluminum Extrusion without sides and polished acrylic panel	Reflection
Section 10440	Interior slim-line Aluminum Sign with magnetic panel security	Fascia
Section 10440	Interior Modular Interchangeable Signs – Jigsaw	Jigsaw™
Section 10440	Interior Modular paper Insert Series – Puzzle	Puzzle™

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If specific sign quantities, sizes, layouts, and graphic processes are not scheduled, an allowance may be utilized to set aside a monetary amount sufficient for purchase, delivery, and installation of signage.
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- A. [Allowances: Work of this section is affected by allowances. Refer to Division 1 for allowance amounts and requirements.]

1.2 Quality Assurance

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Include quality assurance requirements below which are consistent with the size and scope of the project and extent of work of this section. Only request qualification statements you intend to review, and which are necessary to establish qualifications of the product, manufacturer, or installer.
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- A. Supplier: Obtain all products in this section from a single supplier.
- B. Regulatory Requirements: Products shall meet requirements of the Americans With Disabilities Act Accessibility Guidelines (ADAAG) and local amendments and modifications
- C. Installer: Installation shall be performed by installer specialized and experienced in work similar to that required for this project.

1.3 SUBMITTALS:

- A. Submit in accordance with requirements of Division 1.
- B. Product Data: Submit product data for specified products. Include material details for each sign specified.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including dimensions, anchorage, and accessories.
- D. Samples: Submit supplier's standard color chart for selection purposes and selected colors for verification purposes.
- E. Installation: Submit supplier's installation instructions.
- F. Closeout Submittals:
- G. Submit operation and maintenance data for installed products, including precautions against harmful cleaning materials and methods.
- H. Submit warranty documents specified herein

1.4 DELIVERY, STORAGE AND HANDLING:

- A. Comply with requirements of Division 1.
- B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier.
- E. Handle products in accordance with manufacturer's instructions.

1.5 WARRANTY

- A. Project Warranty: Comply with requirements of Division 1.
- B. Manufacturer's Warranty: Submit manufacturer's standard warranty document executed by authorized company official.
- C. Warranty Period: Five (5) years from product ship-date on all defective signs, except for graphics.

- D. Warranty Period: One (1) year from product ship date on all graphics.

2 PRODUCTS

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In 2.1A1 below, modify to reflect name, address, and phone/fax of local ASI Affiliate who is supplying to product or system to the project.
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2.1 SIGNAGE SYSTEMS

A. Acceptable Manufacturers

(1) ASI Sign Systems, 8181 Jetstar Drive, Suite 100, Irving, Texas 75063; (214)352-9140 telephone; (214) 352-9741 facsimile.

(2) Substitutions: Submit in accordance with Section 01600

B. Acceptable Product: PUZZLE™ Sign using patented male and female mounting components and secret locking system requiring no tools.

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In 2.1 C below, modify to include sign type & specifications based on intended use.
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C. PUZZLE™ Interior Wall and Door Mounted Signs:

- (1) Flat interior signs with header panel, paper insert window and base panel. Paper to have two “feet” which slip into slots on the profile to assure that insert cannot be removed.
[Specify size (Height) x Width from the following sizes:
 - (a) 2.5” (H) x 4” (W) [“Micro” window panel holds 1” (H) x 4” (W) perforated paper insert]
 - (b) 4” (H) x 4” (H) [“Mini” window panel holds 4” (H) x 1.9” (W) perforated paper insert]
 - (c) 5.25” (H) x 5.75” (W) [window panel holds 2.25” (H) x 5.75” (W) perforated paper insert]
 - (d) 5.25” (H) x 8.25” (W) [window panel holds 2.25” (H) x 8.25” (W) perforated paper insert]
 - (e) 9” (H) x 8.25” (W) [window panel holds 5.75” (H) x 8.25” (W) perforated paper insert]
 - (f) 14” (H) x 8.5” (W) [window panel holds 14” (H) x 8.5” (W) 1no ANSI A portrait perforated paper insert]
 - (g) 11.5” (H) x 11” (W) [window panel holds 11.5” (H) x 11” (W) 1no ANSI A landscape perforated paper insert]
 - (h) 20” (H) x 11” (W) [window panel holds 20” (H) x 11” (W) 1no ANSI B portrait perforated paper insert]
 - (i) 14” (H) x 17” (W) [window panel holds 14” (H) x 17” (W) 1no ANSI B landscape perforated paper insert]
- (2) Panel Materials for header and base panel: Standard frame, header panels and base panels manufactured from acrylic. Header panels and base panels are finished with a series of foils or frosted acrylic options.
- (3) Panel Colors: Select from the manufacturer’s standard finishes grid:
 - (a) Metallic Series.
 - (i) Standard frame body colors: MBS white, MBL black, MBR brown, MAB brown, MAL grey, MCO Brown.
 - (ii) Foil Finishes for header and base panels: Brushed Stainless Steel, Brushed Blackened Steel, Brushed Bronze, Brushed Antique Bronze, Brushed Alu-Bronze, Brushed Copper.
 - (b) Frosted Series.
 - (i) Standard frame body colors: White
 - (ii) Standard frosted colors for header and base panels: Deep Plum, Hot Blue, Green, Hot Grey, black, white.
 - (c) Natural Series.
 - (i) Standard frame body colors: Grey, Brown, Cream.
 - (ii) Foil finishes for header and base panels: Polished Concrete, Dark Teak, Grey Ash, Dark Walnut, Medium Oak, Light Oak.

- (d) Pastel Series.
 - (i) Standard frame body colors: Pastel Violet, Pastel Blue, Pastel Mint, Pastel Lemon, Pastel Orange, Pastel Raspberry, Pastel Grape, Matt Black, Matt White.
 - (ii) Foil finishes for header and base panels: Any of the foil finishes detailed in a(ii), b(ii) and c(ii) above.
- (4) Window Lens: Specify acrylic lens for window as either:
 - (a) a clear acrylic cover
 - (b) a green tinted lens.
- (5) Graphic Technique:
 - (a) [Direct Digital Printing using 8 step process printed direct to the substrate with UV stable and cured inks in full color plus white at 600DPI or above]
 - (b) [LTV series vinyl letters]
 - (c) [Heat Bonded Vinyl Texting – text edges heat sealed at 3,000 degrees centigrade to limit overspread of adhesive]
 - (d) [Ultra graved text applied to wood veneers or painted acrylic using ultra high-resolution engraving process to remove paint at 1,200 DPI capable of representing half tones]
 - (e) [Ceramic text applied to stainless steel using burned glass fused into the surface. Ultra-high 1200 DPI resolution]
 - (f) [Fret Cut, Stainless Steel Letters, sparkle polished and 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Fret cut letters may be fixed with adhesives as above or if shown as on spacers then on 12mm diameter nickel plated push fit connectors with rubber “O” ring snap receptor]
 - (g) 3D Printing for direct graphics, 1200dpi printing is formed with UV cured and UV resistant anti-fade inks. Printing comprises of adhesion primer, CMYK colors with White under and /or over and finally with Clear over. Multiple layers are printed and cured to form the 3D shape and are entirely free of delamination. Printed shapes or text are formed with rounded edges to ADA compliance driven by a size reducing RIP to control ink layer build up
- (6) Letter styles[s] and letter size[s]: [Specify from manufacturer's standard letter styles chart.]
- (7) Text schedule: [Verify correct capitalization].
- (8) Locking system: Header Panel attached to Sign body by means of ABS plastic male and female Jigsaw™ components. The system locks without any hardware required by pushing the header panel to the left and then pushing it up.
- (9) Wall Mounting: VHB tape and silicone or mechanically fasten with screws through wall rails.

D. PUZZLE™ Interior Wall and Door Mounted Window Signs with raised Letters and Braille:

- (1) Flat Interior window signs with header panel, paper insert window and base panel [Specify size (Height) x Width from the following sizes:
 - (a) 5.25” (H) x 5.75” (W) [window panel holds 2.25” (H) x 5.75” (W) perforated paper insert]
 - (b) 5.25” (H) x 8.25” (W) [window panel holds 2.25” (H) x 8.25” (W) perforated paper insert]
 - (c) 9” (H) x 8.25” (W) [window panel holds 5.75” (H) x 8.25” (W) perforated paper insert]
 - (d) 14” (H) x 8.5” (W) [window panel holds 14” (H) x 8.5” (W) 1no ANSI A portrait perforated paper insert]
 - (e) 11.5” (H) x 11” (W) [window panel holds 11.5” (H) x 11” (W) 1no ANSI A landscape perforated paper insert]
 - (f) 20” (H) x 11” (W) [window panel holds 20” (H) x 11” (W) 1no ANSI B portrait perforated paper insert]
 - (g) 14” (H) x 17” (W) [window panel holds 14” (H) x 17” (W) 1no ANSI B landscape perforated paper insert]

- (2) Panel Materials for header and base panel: Standard frame, header panels and base panels manufactured from acrylic. Header panels and base panels are finished with a series of foils or frosted acrylic options.
- (3) Panel Colors: Select from the manufacturer's standard finishes grid:
 - (a) Metallic Series.
 - (i) Standard frame body colors: MBS white, MBL black, MBR brown, MAB brown, MAL grey, MCO Brown.
 - (ii) Foil Finishes for header and base panels: Brushed Stainless Steel, Brushed Blackened Steel, Brushed Bronze, Brushed Antique Bronze, Brushed Alu-Bronze, Brushed Copper.
 - (b) Frosted Series.
 - (i) Standard frame body colors: White
 - (ii) Standard frosted colors for header and base panels: Deep Plum, Hot Blue, Green, Hot Grey, black, white.
 - (c) Natural Series.
 - (i) Standard frame body colors: Grey, Brown, Cream.
 - (ii) Foil finishes for header and base panels: Polished Concrete, Dark Teak, Grey Ash, Dark Walnut, Medium Oak, Light Oak.
 - (d) Pastel Series.
 - (i) Standard frame body colors: Pastel Violet, Pastel Blue, Pastel Mint, Pastel Lemon, Pastel Orange, Pastel Raspberry, Pastel Grape, Matt Black, Matt White.
 - (ii) Foil finishes for header and base panels: Any of the foil finishes detailed in a(ii), b(ii) and c(ii) above.
- (4) Window Lens: Specify acrylic lens for window as either:
 - (a) a clear acrylic cover
 - (b) a green tinted lens.
- (5) Graphic Technique:
 - (a) [Direct Digital Printing using 8 step process printed direct to the substrate with UV stable and cured inks in full color plus white at 600DPI or above]
 - (b) [LTV series vinyl letters]
 - (c) [Heat Bonded Vinyl Texting – text edges heat sealed at 3,000 degrees centigrade to limit overspread of adhesive]
 - (d) [Ultra graved text applied to wood veneers or painted acrylic using ultra high-resolution engraving process to remove paint at 1,200 DPI capable of representing half tones]
 - (e) [Ceramic text applied to stainless steel using burned glass fused into the surface. Ultra-high 1200 DPI resolution]
 - (f) [Fret Cut, Stainless Steel Letters, sparkle polished and 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Fret cut letters may be fixed with adhesives as above or if shown as on spacers then on 12mm diameter nickel plated push fit connectors with rubber "O" ring snap receptor]
 - (g) [3D Printing for ADA Ready application and direct graphics, 1200dpi printing is formed with UV cured and UV resistant anti-fade inks. Printing comprises of adhesion primer, CMYK colors with White under and /or over and finally with Clear over. Multiple layers are printed and cured to form the 3D shape and are entirely free of delamination. Printed shapes, text or Braille dots are formed with rounded edges to ADA compliance driven by a size reducing RIP to control ink layer build up]
- (6) ADA Ready™ Header Panels: Select ADA method as either
 - (a) ADA compliant Grade II Raster Braille and raised letters
 - (b) ADA compliant Grade II Braille produced by a Direct Jet UV 3D printer.
- (7) Letter styles[s] and letter size[s]: [Specify from manufacturer's standard letter styles chart.]
- (8) Text schedule: [Verify correct capitalization]

- (9) Locking system: Header Panel attached to Sign body by means of ABS plastic male and female Jigsaw™ components. The system locks without any hardware required by pushing the header panel to the left and then pushing it up.
- (10) Wall Mounting: VHB tape and silicone or mechanically fasten with screws through wall rails.

E. PUZZLE™ Interior Free-Standing Monolith:

- (1) Flat monolith with steel frame to give the sign a solid a stable structure. Specify sign as single sided or double-sided option. Paper insert sign as specified in C above is mounted to either one or two sides of the sign.
- (2) Standard sign size options:
 - (a) 56" (H) x 8.5" (W) [includes window panel holding ANSI A insert paper portrait orientation]
 - (b) 56" (H) x 11" (W) [includes window panel holding ANSI A insert paper landscape orientation]
 - (c) 56" (H) x 11" (W) [includes window panel holding ANSI B insert paper portrait orientation]
 - (d) 56" (H) x 17" (W) [includes window panel holding ANSI B insert paper portrait orientation]
- (3) Materials for Free Standing Monolith: A Steel frame and base, aluminum face panels. Materials for Window Paper Insert Sign: Standard frame, header panels and base panels manufactured from acrylic. Header panels and base panels are finished with a series of foils or frosted acrylic options.
- (4) Colors: Aluminum panels on free standing monolith - Select from the manufacturer's standard finishes grid. Paper insert window signs choose:
 - (a) Metallic Series.
 - (i) Standard frame body colors: MBS white, MBL black, MBR brown, MAB brown, MAL grey, MCO Brown.
 - (ii) Foil Finishes for header and base panels: Brushed Stainless Steel, Brushed Blackened Steel, Brushed Bronze, Brushed Antique Bronze, Brushed Alu-Bronze, Brushed Copper.
 - (b) Frosted Series.
 - (i) Standard frame body colors: White
 - (ii) Standard frosted colors for header and base panels: Deep Plum, Hot Blue, Green, Hot Grey, black, white.
 - (c) Natural Series.
 - (i) Standard frame body colors: Grey, Brown, Cream.
 - (ii) Foil finishes for header and base panels: Polished Concrete, Dark Teak, Grey Ash, Dark Walnut, Medium Oak, Light Oak.
 - (d) Pastel Series.
 - (i) Standard frame body colors: Pastel Violet, Pastel Blue, Pastel Mint, Pastel Lemon, Pastel Orange, Pastel Raspberry, Pastel Grape, Matt Black, Matt White.
 - (ii) Foil finishes for header and base panels: Any of the foil finishes detailed in a(ii), b(ii) and c(ii) above
- (5) Graphic Technique:
 - (a) [Direct Digital Printing using 8 step process printed direct to the substrate with UV stable and cured inks in full color plus white at 600DPI or above]
 - (b) [LTV series vinyl letters]
 - (c) [Heat Bonded Vinyl Texting – text edges heat sealed at 3,000 degrees centigrade to limit overspread of adhesive]
 - (d) [Ultra graved text applied to wood veneers or painted acrylic using ultra high-resolution engraving process to remove paint at 1,200 DPI capable of representing half tones]
 - (e) [Ceramic text applied to stainless steel using burned glass fused into the surface. Ultra-high 1200 DPI resolution]

- (f) [Fret Cut, Stainless Steel Letters, sparkle polished and 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Fret cut letters may be fixed with adhesives as above or if shown as on spacers then on 12mm diameter nickel plated push fit connectors with rubber "O" ring snap receptor]
- (g) 3D Printing for ADA Ready application and direct graphics, 1200dpi printing is formed with UV cured and UV resistant anti-fade inks. Printing comprises of adhesion primer, CMYK colors with White under and /or over and finally with Clear over. Multiple layers are printed and cured to form the 3D shape and are entirely free of delamination. Printed shapes, text or Braille dots are formed with rounded edges to ADA compliance driven by a size reducing RIP to control ink layer build up
- (6) Letter styles[s] and letter size[s]: [Specify from manufacturer's standard letter styles chart.]
- (7) Text schedule: [Verify correct capitalization]

F. PUZZLE™ Interior Suspended Signs:

- (1) Flat single-sided graphic panels available in stainless steel, frosted acrylic, wood veneer or painted aluminum.
- (2) Flat double-sided graphic panels available in stainless steel, frosted acrylic, wood veneer or painted aluminum.
- (3) Panel sizes: small [3.5" (H) x 17" (W)], medium [6" (H) x 24" (W)], large [8" (H) x 30" (W)].
- (4) Suspension wires: stainless steel rods with top barrel fitting that attach to ceiling (other cable options available on request).
- (5) Graphic Technique:
 - (a) [Direct Digital Printing using 8 step process printed direct to the substrate with UV stable and cured inks in full color plus white at 600DPI or above]
 - (b) [LTV series vinyl letters]
 - (c) [Heat Bonded Vinyl Texting – text edges heat sealed at 3,000 degrees centigrade to limit overspread of adhesive]
 - (d) [Ultra graved text applied to wood veneers or painted acrylic using ultra high-resolution engraving process to remove paint at 1,200 DPI capable of representing half tones]
 - (e) [Ceramic text applied to stainless steel using burned glass fused into the surface. Ultra-high 1200 DPI resolution]
 - (f) [Fret Cut, Stainless Steel Letters, sparkle polished and 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Fret cut letters may be fixed with adhesives as above or if shown as on spacers then on 12mm diameter nickel plated push fit connectors with rubber "O" ring snap receptor]
- (6) Panel Colors: Select from the manufacturer's material finishes grid:
 - (a) Frosted Acrylic – deep black, hot gray, cool gray, white, deep green, hot green, cool mint, green, deep orange, hot red, cool skin, deep purple, hot blue, cool blue, deep plum, hot pink, cool earth.
 - (b) Painted Aluminum – 140 ASI colors – Select from color chart.
 - (c) Brushed Stainless Steel – Sparkle Brushed.
 - (d) Bead Blasted Stainless Steel.
 - (e) Wood Veneer: Cherry, Maple, Birch, Walnut.
- (7) Letter styles[s] and letter size[s]: [Specify from manufacturer's standard letter styles chart]
- (8) Text schedule: [Verify correct capitalization].

G. PUZZLE™ Double and Single Sided Projecting Signs

- (1) Single-sided flat graphic panels available in stainless steel, frosted acrylic, wood veneer or painted aluminum

- (2) Double sided flat graphic panels available in stainless steel, frosted acrylic, wood veneer or painted aluminum
- (3) Panel sizes: small [6" (H) x 6" (W)], medium [(8" (H) x 8" (W)], and large [12" (H) x 12" (W)].
- (4) Wall attachment bracket: T bracket screw mounted from panel through bracket to wall.
- (5) Graphic Technique.
 - (a) [Direct Digital Printing using 8 step process printed direct to the substrate with UV stable and cured inks in full color plus white at 600DPI or above]
 - (b) [LTV series vinyl letters]
 - (c) [Heat Bonded Vinyl Texting – text edges heat sealed at 3,000 degrees centigrade to limit overspread of adhesive]
 - (d) [Ultra graved text applied to wood veneers or painted acrylic using ultra high-resolution engraving process to remove paint at 1,200 DPI capable of representing half tones]
 - (e) [Ceramic text applied to stainless steel using burned glass fused into the surface. Ultra-high 1200 DPI resolution]
 - (f) [Fret Cut, Stainless Steel Letters, sparkle polished and 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Fret cut letters may be fixed with adhesives as above or if shown as on spacers then on 12mm diameter nickel plated push fit connectors with rubber "O" ring snap receptor]
- (6) Panel Colors: Select from the manufacturer's material finishes grid:
 - (a) Frosted Acrylic – deep black, hot gray, cool gray, white, deep green, hot green, cool mint, green, deep orange, hot red, cool skin, deep purple, hot blue, cool blue, deep plum, hot pink, cool earth.
 - (b) Painted Aluminum – 140 ASI colors – Select from color chart.
 - (c) Brushed Stainless Steel – Sparkle Brushed.
 - (d) Bead Blasted Stainless Steel.
 - (e) Wood Veneer: Cherry, Maple, Birch, Walnut.
- (7) Letter styles[s] and letter size[s]: [Specify from manufacturer's standard letter styles chart]
- (8) Text schedule: [Verify correct capitalization]

H. Accessories:

- (1) Room occupancy indicators with small switch that can be moved to indicate green or red denoting room availability. Sizes can be ordered to fit widths of standard solutions.

2.2 SIGNAGE MATERIALS / COMPONENTS

A. Materials and Components:

- 1. Painted Acrylic. Material to be created from white substrate with matt two pack epoxy- based paint to face with edges masked to preserve white appearance.
- 2. Frosted Acrylic. Surface bead blasted to achieve matt appearance with reflective painted reverse, colors white, 5% tinted green and black where shown on the design drawings.
- 3. Brushed Stainless Steel. 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable.
- 4. Bead Blasted Stainless Steel. 240 grit pre-brushing in 4mm grade 316 stainless steel with glass bead blasted edges. Laser cutting with burned or burnished edges are not acceptable. Surface blasted by ultra-small shot to even finish and protective coating applied using silicon- based polish.

5. Wood. Veneered MDF 4mm (+-1mm) thick in finishes of Cherry, Birch, Maple or 6mm solid Oak, as described in design drawings. Veneer on both sides to preserve flatness. Balancing veneers and solid material (apart from Oak) is not acceptable as a substitute. Panels are to be cut and sealed to prevent warping with a dark burnished edge, not sawn or routed.
6. Paper holders. Are to be made from a combination of all the materials above with a folded stainless-steel paper holder (0.55mm thickness with 0.2mm radius bends) and 5mm, 5% tinted Perspex. Paper holders must be supplied with a pre-perforated paper insert system for sizes smaller than A4 along with texting software or electronic aids and templates.
8. Modular Jigsaw™ Fixing Components. Injection molded from ABS plastic, 5% tinted green with UV filter and flame-retardant additive. Components comprise male and female pieces. The male components have a tapered dovetail to facilitate alignment with the female clip. Male components snap together in a Jigsaw like function and also mounted onto the wall rails with VHD adhesive tape. The female Jigsaw component has a hollow dovetail construction to minimize cooling distortion. The female component adheres to the rear of the panels and snapped with a sideways motion, right to left, into the male component.
9. Locking component. The system locks by inserting a metal locking rod into a hole in the center of the male and female components sliding the rail in from top to bottom. The locking rod has a tapered end to allow for an easy removal of the rod.

2.3 FABRICATION - GENERAL

- A. General: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
- B. Preassemble signs in the shop to the greatest extent possible to minimize field assembly. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in a location not exposed to view after final assembly.
- C. Form panels to required size and shape. Comply with requirements indicated for design, dimensions, finish, color, and details of construction.
- D. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions: Verify installation conditions previously established under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- B. Scheduling of installation by Owner or it's representative implies that substrate and conditions are prepared and ready for product installation. Proceeding with installation implies installer's acceptance of substrate and conditions.

3.2 INSTALLATION

- A. Install product in accordance with supplier's instructions.
- B. Install product in locations indicated using mounting methods recommended by sign manufacturer and free from distortion, warp, or defect adversely affecting appearance.
- C. Install product level, plumb, and at heights indicated.
- D. Install product at heights to conform to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and applicable local amendments and regulations.
- E. Install signs within the following tolerances and in accordance with manufacturer's recommendations:

Interior Signs: Within 1/4 inch vertically and horizontally of intended location.

3.3 CLEANING, PROTECTION, AND REPAIR

- A. Repair scratches and other damage which might have occurred during installation. Replace components where repairs were made but are still visible to the unaided eye from a distance of 5 feet.
- B. Remove temporary coverings and protection to adjacent work areas. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project in accordance with provisions in Division 1.

3.4 SIGN SCHEDULE

- A. Schedule: Refer to signage schedule and Drawings for sizes, locations, and layout of signage types, sign text copy, and graphics.

END OF SECTION