SECTION 13 10 10

BULLET RESISTANT PARTITIONS AND EQUIPMENT

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\*\* NOTE TO SPECIFIER \*\* Total Security Solutions; Bullet Resistant Partitions and Equipment.  
This section is based on the products of Total Security Solutions, which is located at:935 Garden Ln.Fowlerville, MI 48836Toll Free Tel: 866-304-5070Fax: 517-223-0805Email:  [arcat@tssbulletproof.com](mailto:arcat@tssbulletproof.com?subject=RE:%20Spec%20Question%20(13070tss):%20)  
Web: [https://tssbulletproof.com/?utm\_source=arcat&amp;utm\_medium=referral&amp;utm\_campaign=digital-outbound](https://tssbulletproof.com/?utm_source=arcat&utm_medium=referral&utm_campaign=digital-outbound)   
  
 [ [Click Here](https://arcat.com/company/total-security-solutions-43676) ] for additional information.  
  
Total Security Solutions, Inc. designs, fabricates and installs custom bullet proof or bullet resistant enclosures.   
We offer individual on-site surveys, state of the art CAD systems for engineering and manufacturing. We ensure that your security requirements are met using over 25 years of experience.   
We take your project from concept to reality. We ensure a quality installation suited to your individual bullet resistant security requirements whether its new construction or retrofits, you can rest easy that it will be done in a timely manner at a competitive price.   
We inventory a variety of bullet resistant products including transparencies of monolithic acrylic either coated or not, laminated polycarbonate or acrylic polycarbonate composite in UL levels 1 through 3. Reinforced fiberglass armor in UL levels 1 through 3 are also inventory items.   
Give us the opportunity to solve your bullet resistant challenges. Each project brings its own unique situations. With thousands of projects completed, we are committed to supplying you with the most advanced products, cutting edge solutions at competitive prices. You can rely on our commitment to ensure the best solution for your bullet resistant needs.  
  
See our SpecWizard: [Click Here](http://www.arcat.com/specwizard/13070tss/index.htm)

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Bullet Resistant Financial Counter Lines.
    2. Bullet Resistant Convenience Store Transaction Lines.
    3. Bullet Resistant Transaction Windows.
    4. Bullet Resistant Doors.
    5. Bullet Resistant Transparencies.
    6. Bullet Resistant Opaque Armor.
    7. Bullet Resistant Ballistic Counters.
    8. Bullet Resistant Currency Trays.
    9. Bullet Resistant Package Passers.
    10. Bullet Resistant Pass-Through Drawers.
    11. Bullet Resistant Insulated Glass.
    12. Virus guards.
        1. Fixed barrier system.
        2. Mobile barrier system.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 06 10 00 - Rough Carpentry.
    2. Section 08 70 00 - Hardware.
    3. Section 08 81 00 - Glass.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.
    2. ASTM B 209/B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
    3. NIJ Standard 0108.01 - (National Institute of Justice) Standard for Ballistic Resistant Protective Materials.
    4. Underwriters Laboratories: UL 752 - Standard for Bullet Resisting Equipment.
  1. PERFORMANCE REQUIREMENTS
     1. Design, fabricate and install all partition materials specified in this section to meet or exceed the requirements of UL 752.
  2. SUBMITTALS
     1. Submit under provisions of Section 01 30 00.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Submit Manufacturer approved shop drawings detailing plan, section and elevation views as necessary to ensure proper field installation procedures. Coordinate locations with those listed in the Contract Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.
     2. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
       3. Refinish mock-up area as required to produce acceptable work.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.
  2. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  3. WARRANTY
     1. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Total Security Solutions, which is located at:935 Garden Ln.Fowlerville, MI 48836Toll Free Tel: 866-304-5070Fax: 517-223-0805Email: [request info (arcat@tssbulletproof.com)](https://arcat.com/rfi?action=email&company=Total%252BSecurity%252BSolutions&message=RE%253A%2520Spec%2520Question%2520(13070tss)%253A%2520&coid=43676&spec=13070tss&rep=&fax=517-223-0805);Web: [https://tssbulletproof.com/?utm\_source=arcat&amp;utm\_medium=referral&amp;utm\_campaign=digital-outbound](https://tssbulletproof.com/?utm_source=arcat&utm_medium=referral&utm_campaign=digital-outbound)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

\*\* NOTE TO SPECIFIER \*\* Retain only components require under the scope of work in this section and delete all others.

* 1. COMPONENTS
     1. Glazing: Bullet Resistant Glazing:

\*\* NOTE TO SPECIFIER \*\* Select Glazing Type. Delete four of the next five paragraphs.

* + - 1. Glazing Type: Monolithic acrylic.
      2. Glazing Type: Laminated acrylic/polycarbonate composite.
      3. Glazing Type: Laminated polycarbonate.
      4. Glazing Type: Glass clad polycarbonate.
      5. Glazing Type: Laminated bullet resistant glass.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete four of the next five paragraphs.

* + - 1. Rating: UL 752 Level 1.
      2. Rating: UL 752 Level 2.
      3. Rating: UL 752 Level 3.
      4. Rating: UL 752 Level 4.
      5. Rating: UL 752 Level 5.

\*\* NOTE TO SPECIFIER \*\* Select glazing thickness. Delete six of the next seven paragraphs.

* + - 1. Glazing Thickness: 9/16 inch (14mm).
      2. Glazing Thickness: 3/4 inch (19mm).
      3. Glazing Thickness: 15/16 inch (24mm).
      4. Glazing Thickness: 1 inch (25mm).
      5. Glazing Thickness: 1 3/16 inch (30mm).
      6. Glazing Thickness: 1 1/4 inch (32mm).
      7. Glazing Thickness: 1 3/8 inch (35mm).
      8. All panels finish 48 inches (1219mm) above the teller riser, 60 inches (1524mm) above the teller counter or to the underside of an existing soffit if lower than 100 inches (2540mm) Above the Finished Floor (A.F.F.).

\*\* NOTE TO SPECIFIER \*\* Delete the next paragraph if Arched panels are not required.

* + - 1. All transparent arched panels spanning teller transaction spaces must be symmetrical, notched from the edges of the teller risers and to 72 inches (1829mm) A.F.F. at the apex of the arch. A transparent backer shall overlap the notch 4 inches (102mm) around and be set back 1 1/2 inches (39mm). Arch centerline will bisect the center of the stainless steel money tray.

\*\* NOTE TO SPECIFIER \*\* Delete the next paragraph if a Baffle System is not specified.

* + - 1. All transparent panels within a vertical baffle system span the teller risers or the money trays edge to edge. A transparent backer will overlap the money trays by 3 inches (76mm), be set back 2 inches (52mm) and extend to match the other transparent panels.
    1. Aluminum Sections: Extruded aluminum alloy 6063 T5 manufactured in accordance with ASTM B209. Anodized or powder coated finish to match the existing decor and be free of sharp edges or burrs when in place.
       1. Glazing Channel: U-Channel specifically designed for securing transparencies tightly in place. Angles and stops are only acceptable for top attachment.
       2. Door Frames: 1 3/4 inch by 4 inches by 1/8 min. (44mm x 102mm x 3mm) wall thickness. Anodized or powder coated finish to match the existing decor and be free of sharp edges or burrs when in place.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Bullet Resistant Counter Line Systems are not specified.

* 1. BULLET RESISTANT COUNTER LINE SYSTEMS
     1. Scope: Custom fabricated bullet resistant panels with secure air passage as required for voice transmission. Panels are prefabricated to fit existing fixtures, with all necessary components, hardware, and accessories being supplied as needed for complete installation.

\*\* NOTE TO SPECIFIER \*\* Select system type(s) from the next four paragraphs.

* + - 1. System Type: Arch Window System.
      2. System Type: Vertical Baffle System.
      3. System Type: Secure Sound System.
      4. System Type: Speak Hole and Backer.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete two of the next three paragraphs.

* + - 1. Rating: UL 752 Level 1.
      2. Rating: UL 752 Level 2.
      3. Rating: UL 752 Level 3.
    1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select Glazing Type. Delete one of the next two paragraphs.

* + - 1. Glazing Type: Monolithic acrylic.
      2. Glazing Type: Laminated polycarbonate.
    1. Frame: Extruded aluminum alloy 6063 T5 manufactured in accordance with ASTM B209. Anodized or powder coated finish to match the existing decor and be free of sharp edges or burrs when in place.

\*\* NOTE TO SPECIFIER \*\* Select Frame Type. Delete one of the next two paragraphs.

* + - 1. Type: U-Channel.
      2. Type: 2 Piece Channel.

\*\* NOTE TO SPECIFIER \*\* Select finish. Brass only available with U-Channel Frame. Delete three of the next four paragraphs. Insert powdercoat finish color where specified.

* + - 1. Finish: Clear Anodized.
      2. Finish: Bronze.
      3. Finish: Brass.
      4. Finish: Powdercoat - Color: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. Cash Tray:

\*\* NOTE TO SPECIFIER \*\* Select Cash Tray Mounting Method. Delete one of the next two paragraphs.

* + - 1. Mounting: Surface Mount.
      2. Mounting: Recessed.

\*\* NOTE TO SPECIFIER \*\* Select Cash Tray Finish. Delete one of the next two paragraphs.

* + - 1. Finish: Brushed Stainless Steel.
      2. Finish: Brass.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Convenience Store Slider Systems are not specified.

* 1. CONVENIENCE STORE SLIDER SYSTEMS
     1. Scope: Fixed and sliding transparent bullet resisting panels as needed to secure an opening, along with the aluminum framework, hardware, and fasteners needed for installation. All components are completely fabricated and ready for installation. The manual lift sliding panel can be opened to allow passage of packages and more familiarity with customers during periods of low threat.

\*\* NOTE TO SPECIFIER \*\* Select Operation Type. Delete one of the next two paragraphs.

* + - 1. Operation: Vertical Slider.
      2. Operation: Horizontal Slider.

\*\* NOTE TO SPECIFIER \*\* Retain the next paragraph if bullet traps are specified.

* + - 1. Included Bullet Traps.
    1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.
    2. Frame:

\*\* NOTE TO SPECIFIER \*\* Select Frame operation type. Delete one of the next two paragraphs.

* + - 1. Vertical Slider: Frame to be constructed from 3 inch by 9 inch (76mm x 229mm) ballistic rated aluminum tube, in such a manner that all moving parts and hardware are concealed in a non-visible manner.
      2. Horizontal Slider: Horizontal frame shall consist of an overhead track assembly unit consisting extruded aluminum which conceals all moving parts and hardware. The track shall maintain a minimum of 4 points of contact with the sliding acrylic at all times.

\*\* NOTE TO SPECIFIER \*\* Select finish. Delete one of the next two paragraphs. Insert custom paint material and finish where specified.

* + - 1. Finish: Clear Anodized.
      2. Finish: Dark Bronze Anodized.
    1. Cash Tray:
       1. Mounting: Recessed.
       2. Finish: Brushed Stainless Steel

\*\* NOTE TO SPECIFIER \*\* Select cash tray size. Delete one of the next two paragraphs.

* + - 1. Dimensions: 14 inches by 17 inches by 2 1/2 inches (356mm x 432mm x 64mm).
      2. Dimensions: 14 inches by 13 inches by 2 1/2 inches (356mm x 330mm x 64mm).
    1. Doors:

\*\* NOTE TO SPECIFIER \*\* Select Door Type. Delete one of the next two paragraphs.

* + - 1. Door Type: Aluminum Style Door.
      2. Door Type: Half Vision Acrylic.

\*\* NOTE TO SPECIFIER \*\* Retain the next article only if Transaction Modules or Transactional Doors are specified.

* 1. BULLET RESISTANT TRANSACTION MODULES
     1. Construction:

\*\* NOTE TO SPECIFIER \*\* Select model. Delete two of the next three paragraphs.

* + - 1. Model: Interior - All aluminum fixed window.
      2. Model: Interior - Natural Voice Transmission (NVR).
      3. Model: Exterior.
      4. Model: Interior Horizontal Slider.
      5. Model: Integrated into Transactional Door.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete three of the next four paragraphs.

* + - 1. Rating: UL 752 Level 1.
      2. Rating: UL 752 Level 2.
      3. Rating: UL 752 Level 3.
      4. Rating: UL 752 Level 4.

\*\* NOTE TO SPECIFIER \*\* Select Frame Type. Delete two of the next three paragraphs.

* + - 1. Frame: Aluminum tube and fixed glazing channel. Glazing is wrapped with anodized aluminum channels.
      2. Frame: Steel, primed.
      3. Frame: Stainless Steel.

\*\* NOTE TO SPECIFIER \*\* Select Counter type. Stainless Steel is required on exterior applications. Delete one of the next two paragraphs.

* + - 1. Counter Construction: Wood with Plastic laminate, black finish.
      2. Counter Construction: Stainless Steel, No. 4 Brushed Finish.

\*\* NOTE TO SPECIFIER \*\* Select deal tray. Exterior Models require flip lid trays. Delete two of the next three paragraphs.

* + - 1. Deal Tray: Stainless steel - counter mount.
      2. Deal Tray: Stainless steel - recessed.
      3. Deal Tray: Stainless steel - flip lid for exterior applications.
    1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select Glazing Type. Delete two of the next three paragraphs.

* + - 1. Glazing Type: Monolithic acrylic.
      2. Glazing Type: Laminated polycarbonate.
      3. Glazing Type: Glass clad polycarbonate.
    1. Voice Transmission:

\*\* NOTE TO SPECIFIER \*\* Select System Type. Delete three of the next four paragraphs.

* + - 1. System Type: Speak Hole and Backer.
      2. System Type: Natural Voice Transmission.
      3. System Type: MK-1.
      4. System Type: MK-2.
      5. System Type: Electronic.
      6. Voice Port: Fabricated from Same Glazing material, Stainless Steel of same level of protection, Electronic speaker device.

\*\* NOTE TO SPECIFIER \*\* Select voice port shape. Delete two of the next three paragraphs. Delete all if MK-1, MK-2 or Electronic are selected above.

* + - * 1. Shape: Arched.
        2. Shape: Circle.
        3. Shape: Rectangular.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Acrylic Doors are not specified.

* 1. BULLET RESISTANT ACRYLIC DOORS
     1. Construction: Frameless and fabricated from the bullet resistant glazing specified in this section.

\*\* NOTE TO SPECIFIER \*\* Select Frame Type. Delete one of the next two paragraphs.

* + - 1. Frame: Aluminum.

\*\* NOTE TO SPECIFIER \*\* Select finish. Delete one of the next two paragraphs.

* + - * 1. Finish: Clear Anodized.
        2. Finish: Dark Bronze Anodized.
      1. Frame: Steel, primed.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete three of the next four paragraphs.

* + - 1. Rating: UL 752 Level 1.
      2. Rating: UL 752 Level 2.
      3. Rating: UL 752 Level 3.
    1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select Vision Lite. Delete one of the next two paragraphs.

* + - 1. Vision Lite: Full Vision.
      2. Vision Lite 1/2 Vision.
    1. Hardware:

\*\* NOTE TO SPECIFIER \*\* Select Lockset. Delete one of the next two paragraphs.

* + - 1. Lockset: Schlage D80PD.
      2. Lockset: Simplex L1000.

\*\* NOTE TO SPECIFIER \*\* The following Devices are standard door hardware. Retain only those required and delete all others.

* + - 1. Kick Plate and Midband: Located on both sides of the door. Finish to match frame.
      2. Lockset: Schlage D80PD lockset.
      3. Closer: LCN-4041 door closer.
      4. Hinges: Select 21 continuous hinge.
      5. Additional Security: Anti-jimmy device.
      6. Latch: Adams Rite 7100 series electric strike.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Solid Doors are not specified. Retain only models required and delete all others.

* 1. BULLET RESISTANT DOORS
     1. Door Type:

\*\* NOTE TO SPECIFIER \*\* Select door type(s) from the following four options. Delete types not specified on this project.

* + - 1. Wood Door: Lumber core lined with a sheet of fiberglass. Door has no exposed fasteners and is finished to match exterior.
      2. Steel Door: All steel, bullet-resistant protective barrier, hung on a steel frame. Peepholes, view windows and door scopes are pre-drilled and factory installed in accordance with the Contract Documents for installation into specified system.
      3. Transactional Door: Lumber core lined with a sheet of fiberglass. Door has no exposed fasteners and is finished to match exterior. Transaction module glazed in upper lite.
      4. Aluminum Door: Aluminum framed door. Door has no exposed fasteners and is finished to match exterior.
    1. Door Construction:

\*\* NOTE TO SPECIFIER \*\* Select Frame Type. Delete one of the next two paragraphs.

* + - 1. Aluminum: Ballistic aluminum frame, pre-drilled in accordance with the Contract Documents for installation into specified system. Extruded and keyed aluminum spline joinery with continuous 3/8 inch (10mm) diameter steel tie rod at door top and bottom rails.
         1. Clear anodized
         2. Dark Bronze anodized
      2. Steel, primed.

\*\* NOTE TO SPECIFIER \*\* Retain the next paragraph only if specified doors contain glazing.

* + - 1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete two of the next three paragraphs.

* + - * 1. Rating: UL 752 Level 1.
        2. Rating: UL 752 Level 2.
        3. Rating: UL 752 Level 3.
      1. Hardware:

\*\* NOTE TO SPECIFIER \*\* The following Devices are standard door hardware. Retain only those required and delete all others.

* + - * 1. Lockset: Schlage D80PD lockset.
        2. Closer: Title 24 compliant automatic door closer.
        3. Hinges: Select 21 continuous hinge.
        4. Additional Security: Anti-jimmy device.

\*\* NOTE TO SPECIFIER \*\* The following devices are optional door hardware. Retain only those required and delete all others.

* + - * 1. Strike Release: Electric, as specified in Section 08 74 13.
        2. Exit Device: As specified in Section 08 71 53.
        3. Custom Security Hardware: As specified in Section 08 71 53.
        4. Peephole.
        5. View window.
        6. Door scope.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Bullet Resistant Transparencies are not specified.

* 1. BULLET RESISTANT TRANSPARENCIES
     1. Scope: Bullet-resistant barrier system which maintains an open environment. For use in applications where optical quality, cleanability and long term performance are important.
     2. Glazing: Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select Glazing Type. Delete two of the next three paragraphs.

* + - 1. Glazing Type: Monolithic acrylic.
      2. Glazing Type: Laminated polycarbonate.
      3. Glazing Type: Glass clad polycarbonate.

\*\* NOTE TO SPECIFIER \*\* Select Glazing Thickness. Delete four of the next five paragraphs.

* + - 1. Glazing Thickness: 0.750 inch (19mm).
      2. Glazing Thickness: 0.9375 inch (23.8mm).
      3. Glazing Thickness: 1 inch (25.4mm).
      4. Glazing Thickness: 1.1875 inches (30.2mm).
      5. Glazing Thickness: 1.25 inches (31.7mm).

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete two of the next three paragraphs.

* + - 1. Rating: UL 752 Level 1.
      2. Rating: UL 752 Level 2.
      3. Rating: UL 752 Level 3.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Opaque Armor is not specified.

* 1. OPAQUE ARMOR
     1. Bullet resistant fiberglass armor tested and approved to meet U.L. 752 for the level of protection specified.

\*\* NOTE TO SPECIFIER \*\* Select model required based on level of protection required. Delete models not required.

* + - 1. BB-1.
         1. Rating: UL752 Level 1.
         2. Panel Thickness: 1/4 inch (6.35mm).
         3. Panel Weight: 2.4 Lbs per square foot (11.72 kg/sm).
      2. BB-2.
         1. Rating: UL752 Level 2.
         2. Panel Thickness: 3/8 inch (9.5mm).
         3. Panel Weight: 3.0 Lbs per square foot (14.65 kg/sm).
      3. Model: 3.
         1. Rating: UL 752 Level 3, UN Listed.
         2. Panel Thickness: 3/8 inch (10mm).
         3. Panel Weight: 4.0 Lbs per square foot (19.53 kg/sm).
      4. Model: 4.
         1. Rating: Military Standard 662E V50.
         2. Panel Thickness: 9/16 inch (14mm).
         3. Panel Weight: 5.5 Lbs per square foot (27 kg/sm).

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Ballistic Counters are not specified.

* 1. BALLISTIC COUNTERS
     1. Scope: Countertop integrated into a complete bullet-resistant barrier system matching adjacent materials featured. Ballistic counters use layered, reinforced, structural polyester laminate (fiberglass).
     2. Counter Surface:

\*\* NOTE TO SPECIFIER \*\* Select Counter Surface Material. Delete four of the next five paragraphs and insert material if not listed.

* + - 1. Material: Stainless Steel.
      2. Material: Plastic Laminate.
      3. Material: Corian.
      4. Material: Wood.
      5. Material: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Currency Trays are not specified.

* 1. CURRENCY TRAYS

\*\* NOTE TO SPECIFIER \*\* Select Cash Tray Mounting Method. Delete dimensions and types not required.

* + 1. Construction: Counter Mount.
       1. Dimensions: 12 inches by 8 inches by 2 inches (305mm x 203mm x 51mm).
       2. Dimensions: 12 inches by 10 inches by 2 inches (305mm x 254mm x 51mm).
       3. Dimensions: 14 inches by 8 inches by 2 inches (356mm x 203mm x 51mm).
       4. Dimensions: 14 inches by 10 inches by 2 inches (356mm x 254mm x 51mm).
       5. Dimensions: 16 inches by 8 inches by 2 inches (406mm x 203mm x 51mm).
       6. Dimensions: 16 inches by 10 inches by 2 inches (406mm x 254mm x 51mm).
    2. Mounting: Recessed.
       1. Dimensions: 12 inches by 8 inches by 1-1/2 inches (305mm x 203mm x 38mm).
       2. Dimension: 12 inches by 10 inches by 1-1/2 inches (305mm x 254mm x 38mm).
       3. Dimensions: 14 inches by 8 inches by 1-1/2 inches (356mm x 203mm x 38mm).
       4. Dimensions: 14 inches by 10 inches by 1-1/2 inches (356mm x 254mm x 38mm).
       5. Dimensions: 16 inches by 8 inches by 1-1/2 inches (406mm x 203mm x 38mm).
       6. Dimensions: 16 inches by 10 inches by 1-1/2 inches (406mm x 254mm x 38mm).
       7. Dimensions: 14 inches by 13 inches by 2-1/2 inches (356mm x 330mm x 64mm).
       8. Dimensions: 14 inches by 17 inches by 1-3/4 inches (356mm x 432mm x 45mm).
    3. Mounting: Recessed with Bullet Trap.
       1. Dimensions: 12 inches by 8 inches by 1-1/2 inches (305mm x 203mm x 38mm).
       2. Dimensions: 14 inches by 8 inches by 1-1/2 inches (356mm x 203mm x 38mm).
       3. Dimensions: 16 inches by 8 inches by 1-1/2 inches (406mm x 203mm x 38mm).
       4. Dimensions: 14 inches by 13 inches by 2-1/2 inches (356mm x 330mm x 64mm).
       5. Dimensions: 14 inches by 17 inches by 1-3/4 inches (356mm x 432mm x 45mm).
    4. Finish:

\*\* NOTE TO SPECIFIER \*\* Select Cash Tray Finish. Delete one of the next two paragraphs.

* + - 1. Finish: Brushed Stainless Steel.
      2. Finish: Brushed Brass.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Package passers are not specified. Retain only models required and delete all others.

* 1. PACKAGE PASSERS
     1. Interlocking Package Passer: Rectangular box built from transparent bullet resistant glazing material, with doors on the customer and employee sides. A mechanical interlocking mechanism prevents the opening of both doors simultaneously, allowing small packages to be passed through a barrier without a breach of security.
        1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete two of the next three paragraphs.

* + - * 1. Rating: UL 752 Level 1.
        2. Rating: UL 752 Level 2.
        3. Rating: UL 752 Level 3.
      1. Operation: Package Passer to have hinged doors controlled by mechanical interlocking mechanism allowing only one door to be opened at a time.
      2. Base: Particle board with black plastic laminate covering.
      3. Hardware: 1/4-20 steel machine screws.
    1. Rotary Package Passer: Outer shell of stainless steel sides, UHMW plastic top and base with openings facing the customer and employee. An inner revolving unit built from the same material as exterior. Clear vision window has an opening to one side only.
       1. Glazing: As specified in Article 2.2 of this section. Meets Underwriters Laboratories Standard 752 for bullet resistance and/or tested by H.P. White Laboratory for specified bullet resistance.

\*\* NOTE TO SPECIFIER \*\* Select UL Rating. Delete two of the next three paragraphs.

* + - * 1. Rating: UL 752 Level 1.
        2. Rating: UL 752 Level 2.
        3. Rating: UL 752 Level 3.
      1. Exterior Unit: Bullet resisting materials with outer shell in a rectangular box shape and openings at two sides.
      2. Revolving Interior Unit: Three-sided radius to be constructed from the same material as exterior unit with a clear vision on the fourth side. Unit revolves from customer side to secure side on ball bearing mechanism.
      3. Tops and Bottoms: UHMW plastic.
      4. Hardware: Stainless steel with Stainless Steel crank handle.

\*\* NOTE TO SPECIFIER \*\* Delete the next Article if Pass-Through Drawers are not specified. Retain only models required and delete all others.

* 1. PASS-THROUGH DRAWERS
     1. Through Wall Drawer: Secure drawer with removable stainless steel deal tray for money and credit card transactions. Deal tray is removable to provide a larger transfer area. Lockable storage compartment with a forward-hinge cover conceals contents from customer view.
     2. Duo Drawer: Equipped with a sliding deal tray for money and credit card or document transactions. Large pass-thru area allows transfer of larger items. The deal tray slides its full length forward and backward while controlling access to the transfer area.

\*\* NOTE TO SPECIFIER \*\* Delete the next article if structural support is not required under the scope of Work listed in this section.

* 1. STRUCTURAL SUPPORTS
     1. Where installation requires lateral bracing, locate braces no wider than 96 inches (2438mm) on centerlines. The depth of the brace below the counter and vertical support (brace) above the counter must maintain a ratio of at least 20 percent of the total installation height.
     2. Install 1 1/2 inch (39mm) square steel tube braces below the counter and hoods with a minimum wall thickness of 1/8 inch (3mm). Welded in place and include two vertical and horizontal members. Bolt or weld a diagonal member between the two horizontal members.
     3. Extend braces located above the counter and hoods to the top of the acrylic slotted jump shield. Material to be of the specified bullet resistant material. At no time shall the vertical supports be less than 10 inches (254mm) in depth.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. BULLET RESISTANT INSULATED GLASS

\*\* NOTE TO SPECIFIER \*\* Delete bullet resistant insulated glass options not required.

* + 1. Bullet Resistant Insulated Glass: As manufactured by Total Security Solutions.
       1. Series: Defender Ballistic Insulated Glass.
       2. Product: TSS IG-FE 15/16 inch.
       3. Compliance:
          1. Ballistic and Forced Entry Rating: UL 972 - burglary resistant.
          2. ANSI Z971: Pass.
          3. ASTM C1036.
          4. Dimensional Tolerance: ASTM C1349.
          5. CPSC 16 CFR 1201 - Category I and II.
       4. Construction:
          1. Threat Layer: Heat treated glass.
          2. Layer 2: Interlayer.
          3. Layer 3: Heat treated glass.
          4. Layer 4: Air gap.
          5. Secure Layer 5: Heat treated glass.
       5. Glass:

\*\* NOTE TO SPECIFIER \*\* Standard glass is typical, other types are available. Delete types not required.

* + - * 1. Manufacturer's standard clear glass.
        2. Reflective glass.
        3. Tinted glass, gray.
        4. Tinted glass, bronze.
        5. Tinted glass, green.
        6. Tinted glass, blue.
        7. Translucent white interlayer (frosted).
        8. One-way mirror.
        9. Insulating units - low E.
        10. Suntuitive shading.
    1. Bullet Resistant Insulated Glass: As manufactured by Total Security Solutions.
       1. Series: Defender Ballistic Insulated Glass.
       2. Product: TSS IG 001 L/S 1-1/4 inches.
       3. Compliance:
          1. Ballistic and Forced Entry Rating:

UL 752: Level 1.

UL 972: Burglary resistant.

* + - * 1. ANSI Z971: Pass.
        2. ASTM C1036.
        3. Dimensional Tolerance: ASTM C1349.
        4. CPSC 16 CFR 1201 - Category I and II.
      1. Construction:
         1. Threat Layer: Heat treated glass.
         2. Layer 2: Interlayer.
         3. Layer 3: Heat treated glass.
         4. Layer 4: Air gap.
         5. Layer 5: Heat treated glass.
         6. Layer 6: Interlayer.
         7. Secure Layer 7: Heat treated glass.
      2. Glass:

\*\* NOTE TO SPECIFIER \*\* Standard glass is typical, other types are available. Delete types not required.

* + - * 1. Manufacturer's standard clear glass.
        2. Tinted glass, gray.
        3. Tinted glass, bronze.
        4. Tinted glass, green.
        5. Tinted glass, blue.
        6. Translucent white interlayer (frosted).
        7. Insulating units - low E.
        8. Suntuitive shading.
    1. Bullet Resistant Insulated Glass: As manufactured by Total Security Solutions.
       1. Series: Defender Ballistic Insulated Glass.
       2. Product: TSS IG 001 L/S 1-1/8 inches.
       3. Compliance:
          1. Ballistic and Forced Entry Rating: UL 972 - burglary resistant.
          2. ANSI Z971: Pass.
          3. ASTM C1036.
          4. Dimensional Tolerance: ASTM C1349.
          5. CPSC 16 CFR 1201 - Category I and II.
       4. Construction:
          1. Threat Layer: Heat treated glass.
          2. Layer 2: Interlayer.
          3. Layer 3: Heat treated glass.
          4. Layer 4: Air gap.
          5. Secure Layer 5: Heat treated glass.
       5. Glass:

\*\* NOTE TO SPECIFIER \*\* Standard glass is typical, other types are available. Delete types not required.

* + - * 1. Manufacturer's standard clear glass.
        2. Reflective glass.
        3. Tinted glass, gray.
        4. Tinted glass, bronze.
        5. Tinted glass, green.
        6. Tinted glass, blue.
        7. Translucent white interlayer (frosted).
        8. Wire glass.
        9. One-way mirror.
        10. Insulating units - low E.
        11. Suntuitive shading.
  1. VIRUS GUARDS

\*\* NOTE TO SPECIFIER \*\* The TSS VirusGuard - Fixed Barrier System is designed to create a physical, yet optically clear barrier between individuals. The system offers a custom enclosure to fit most commercial uniform counter spaces. The system is fastened to existing counters with aluminum alloy u-channel, and additionally supported by translucent Buttress Shields. The fixed system typically stands 24 inches high from the counter and includes options for notched passer openings and acrylic translucent passers.

* + 1. Basis of Design: TSS VirusGuard Fixed Barrier System by Total Security Solutions.
       1. Counter Depth Required: 6 inches (152 mm).
       2. Height: 24 inches (610 mm).
       3. Material: 1/2 inch (13 mm) acrylic.
       4. Weight: 3.3 lbs per sq ft (16.1 kg per sq m).
       5. Lengths: As detailed on the Drawings.
       6. Passer Openings: As detailed on the Drawings.
       7. Light Transmission: Greater than 90 percent.
       8. Support Bases: Aluminum alloy U-channel.
       9. Buttress Shields: For end support.

\*\* NOTE TO SPECIFIER \*\* The TSS VirusGuard - Mobile Barrier is designed to create a physical, yet optically clear barrier between individuals and can be assembled in minutes using snap-lock clips and is designed to sit on counters.

* + 1. Basis of Design: TSS VirusGuard Mobile Barrier System by Total Security Solutions.
       1. When set in a 42 inch (1067 mm) high countertop, the mobile barrier offers complete coverage for individuals up to 6 ft-4 inches (1930 mm) tall.
       2. Self-stabilized.
       3. Assemble with provided snap-lock clips.
       4. Hand grips for carrying.
       5. Material: 1/2 inch (13 mm) acrylic.
       6. Weight: 25.6 lbs (11.6 kg).
       7. Dimensions (HxWxD): 34-1/2 x 23-1/2 x 8-3/16 inches (876 x 597 x 208 mm).
       8. Passer Opening (HxW): 1-5/8 x 12-1/2 inches (41 x 317 mm). At bottom of guard.
       9. Light Transmission: Greater than 90 percent.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete if not required.

* + - 1. Two Sided Tape: To secure barrier to a countertop.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
         1. Verify openings are in accordance with approved shop drawings.
         2. Verify that supports have been installed in accordance with the Drawings.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install products in accordance with approved submittals, manufacturer's instructions and requirements of UL 752.
         1. Install equipment plumb, level, rigid and in true alignment.
         2. Use proper anchoring devices. Exposed anchor holes shall be used for anchors.
         3. Install hardware as required for a complete installation.
         4. Where applicable, install fire-rated assemblies in accordance with NFPA 80.
         5. Adjust operating parts for proper operation, non-binding.
   4. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION