



Commercial Food Service Requirements



General Information

Silestone® quartz surfacing is an extremely durable and low maintenance countertop material. As such it is an exceptional product for use in a food service application. However, due to the conditions that are likely to be encountered, the design requires specific structural knowledge, expertise, and attention to technical details. Additionally, the fabrication and especially the installation require specialized equipment, experienced personnel knowledgeable in this specialized application.

NOTE: Cosentino's Commercial Warranty essentially guarantees that the material will be free from manufacturing defects for a period of ten (10) years, but it does *NOT* cover design, fabrication, or installation or design flaws or errors. For complete details regarding the warrant, please contact your Authorizes Silestone® Installer or Dealer or by visiting www.cosentinowarranty.com.

I. DESIGN CONCERNS

This information contained within this memorandum is *ONLY* to be considered as a recommendation or guideline for the design of food service countertops. As a manufacturer of products, we do not approve, endorse, or assume any liability for the design or structural calculations selected.

II. FABRICATION AND FIELD CONCERNS

Silestone® is an extremely hard surfacing material composed primarily of quartz and a binding resin. As such, fabrication and field operations will require specialized tools, experience, knowledge and training. Extreme care and caution should be taken to minimize creation and breathing of silica particulates generated in the cutting, sawing, routing, drilling, sanding and polishing of this product. The use of "wet" equipment and breathing masked are recommended. If at all possible, field, fabrication, adjustments or repairs should be performed outside.

III. GENERAL CONSIDERATIONS

Although Silestone® is very durable and structurally sound this surfacing material, it should not be considered as a structural component in food service applications. Adequate structural support should be designed and implemented to carry the weight of the Silestone® any additional exterior loads.

A. 3cm Material is required for hot & cold food service applications.

B. Compressive loads must not exceed 29,100psi, which is considered the limit of Silestone's® Compressive Strength as determined by independent testing laboratories using the standards of ASTM C-149 testing requirements.

C. Provide adequate support directly underneath any external load and do not use Silestone® to transfer bending and/or shear loads from external equipment .or apparatus to supporting structures.

D. All external loads must be limited to comprehensive loads. Bending and/or shear loads should not be introduced.

E. All inside corners for cut-outs must be radiused with a minimum of 1/4". Square corners are always to be avoided and eliminated.

F. If heated bins or other heating equipment is to be used additional precautions and procedures need to be heeded and performed. Steps should be taken to insulate Silestone® from heated food service equipment. A *minimum* of two layers of Nomex® (or equal) insulating tape with a minimum thickness of 0.11"/layer and a minimum weight of 9.5 oz./yd²/layer is recommended.

G. The design must provide for clearance of 1/8" between the Silestone® and any adjacent walls, cabinets or other constraint. For a drop edge also leave at least 1/8" (3mm.) behind the dropped edge and the casework to allow for expansion and contraction from temperatures changes.

H. The design must accommodate expansion and contraction to minimize the buildup of mechanical and thermal stress. Silestone coefficient of thermal expansion is 1.67×10^{-5} in. /in./°F., as determined by independent testing laboratories using the standards of ASTM C-531

IV. AMBIENT TEMPERATURE CUTOUTS

A. Cutouts must be a minimum of 2" (50mm.) apart.

B. Ease top and bottom edges.

C. Smooth or hone around entire interior of cutout and remove/eliminate any and all cut lines and chips that might exist.

D. Install support for cutout within 2" (50mm.) of all edges of cutout.

E. Provide a minimum gap or 1/8" (3mm.) between appliance and edge of cutout to allow for expansion/contraction of the appliance/tray or service equipment.

V. HOT OR COLD CUTOUTS

A. Cutouts must be a minimum of 2" (50mm.) apart.

B. Ease top and bottom edges.

C. Smooth or hone around entire interior of cutout and remove/eliminate any and all cut lines and chips that might exist.

D. Install support for cutout within 2" (50mm.) of all edges of cutout.

E. The design of countertops that will include service trays or equipment that will exceed ambient temperatures, either hot or cold, must include space for insulation and adequate support for the equipment.

F. Install supports for the cutout within 2" (50mm.) of the edge of the cutout.

G. Provide a minimum gap of 1/8" (3mm.) between appliance and service equipment and the edge of the cutout to allow for the expansion/contraction of that bin or appliance.

H. Minimize heat transfer (hot or cold) by installing insulation. A *minimum* of two layers of Nomex® (or equal) insulating tape with a minimum thickness of 0.11"/layer and a minimum weight of 9.5 oz./yd²/layer is recommended.

I. Avoid direct Silestone® to hot water/steam contact. Never under mount hot wells in a way which will cause Silestone® to become part of the steam tray.

J. Ideally, hot wells and cold wells should be separated by a minimum of `12" (305mm.), with a flexible expansion joint between the wells. In a typical design detail 1/8" (3mm.) gap between sheets/slabs of Silestone should be filled with silicone sealant. While the use of this type of flexible expansion joint is preferred and highly recommended, it is acceptable to omit this feature or detail if Silestone is insulated from both the hot and cold temperature equipment. Three (3) layers or more of Nomex® (or equal) insulating tape with a minimum thickness of 0.11"/layer and a minimum weight of 9.5 oz./yd²/layer is recommended.

NOTE: The insulating tape must be held in place using a minimum of 4ml. aluminum conducting tape. Do not fold this tape onto the Silestone® surface. DO NOT allow the foil tape to create a heat transfer path directly to the Silestone. Attach the tape onto the support structure or membranes for the heat/cold tray/bins or appliances.

PLEASE SEE APPENDIX FOR DRAWINGS OF RECOMMENDED INSULATIONS

VI. SUPPORTING SEAMS

Silestone® quartz surfacing material seams require structural support. The structural support needs to be flush with the supporting substructure. Typical support materials and members include cabinetry, wood, plywood and steel/metal structural shapes.

PLEASE SEE APPENDIX FOR DRAWINGS OF RECOMMENDED INSULATIONS

VII. MOUNTING ANCILLARY EQUIPMENT AND APPARATUS

Mount ancillary equipment and apparatus such as sneeze guards, heat lamp, and divider support structures directly to the sub frame. DO NOT attach these items directly to the Silestone®. Drill through the Silestone® top using the appropriate diamond tools (preferably water cooled) and secure the support structure and/or member to the framework below. Provide adequate radial clearance of 1/8" (3mm.) minimum between the Silestone® top and columns or brackets penetrating the top.

VIII. HEAT LAMP LOCATION

Heat lamp can generate extremely high surface temperatures. Most health authorities require food to be kept at a temperature of at least 140° F. (60° C.). The distance between the lamp(s) and the Silestone® will depend on various lamp characteristics such as design and wattage. The distance for mounting the lamp(s) should be determined in order to achieve the food temperature requirements and *minimize* spot creation on the Silestone®. NEVER use heat lamps to solely heat the Silestone® surface.

IX. HOT PADS

Since hot trays used for delivery of food to the service line are sometimes placed on the surfaces near the food wells, provisions should be taken to install or have available some form of hot pad (trivet) to isolate the heated tray from the Silestone® surface.

The information contained in this Food service Memorandum is given by Cosentino free of charge. It is based on technical data and experience which Cosentino believes to be reliable and is intended for use of persons having knowledge this technical area at their own discretion and risk. Cosentino assumes no responsibility for results obtained or damage incurred from the use of this Memorandum either in whole or in part by a buyer of Silestone®.

APPENDIX

FIGURE I
Hot/Cold Cutout Example

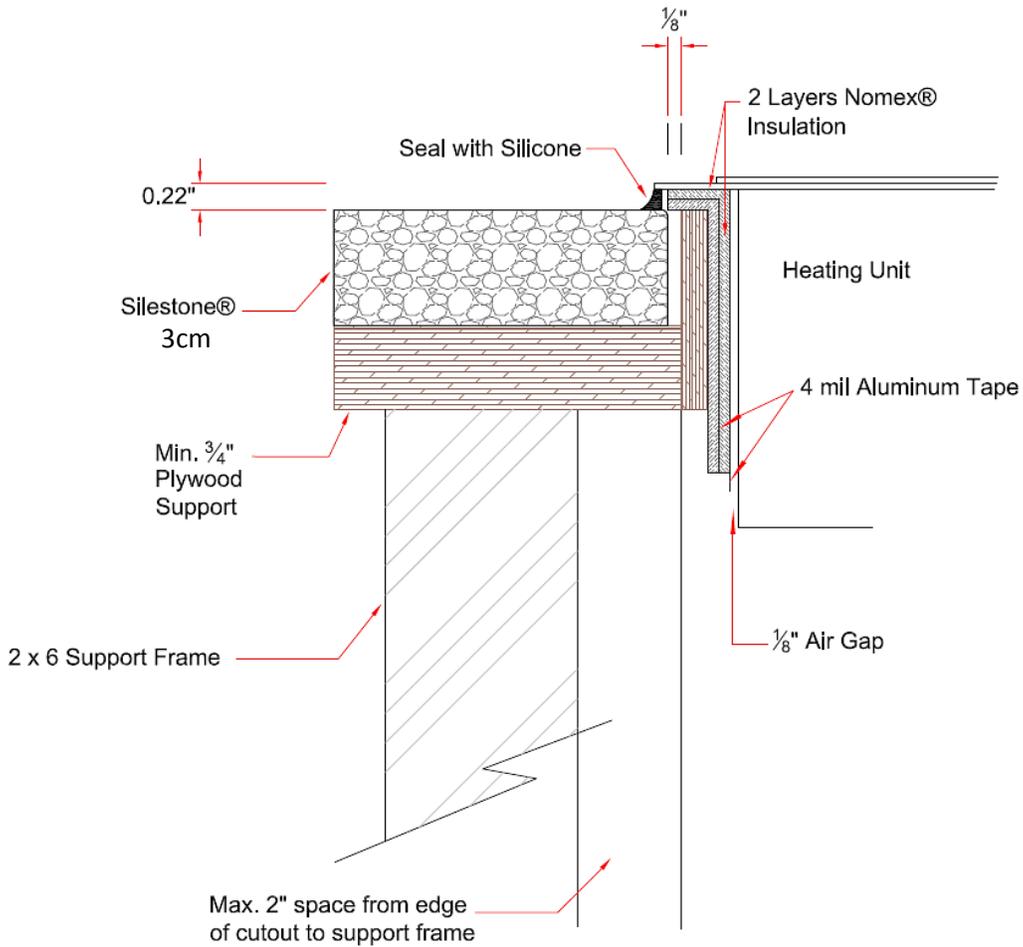


FIGURE II

Hot/Cold Cutout Alternative Example

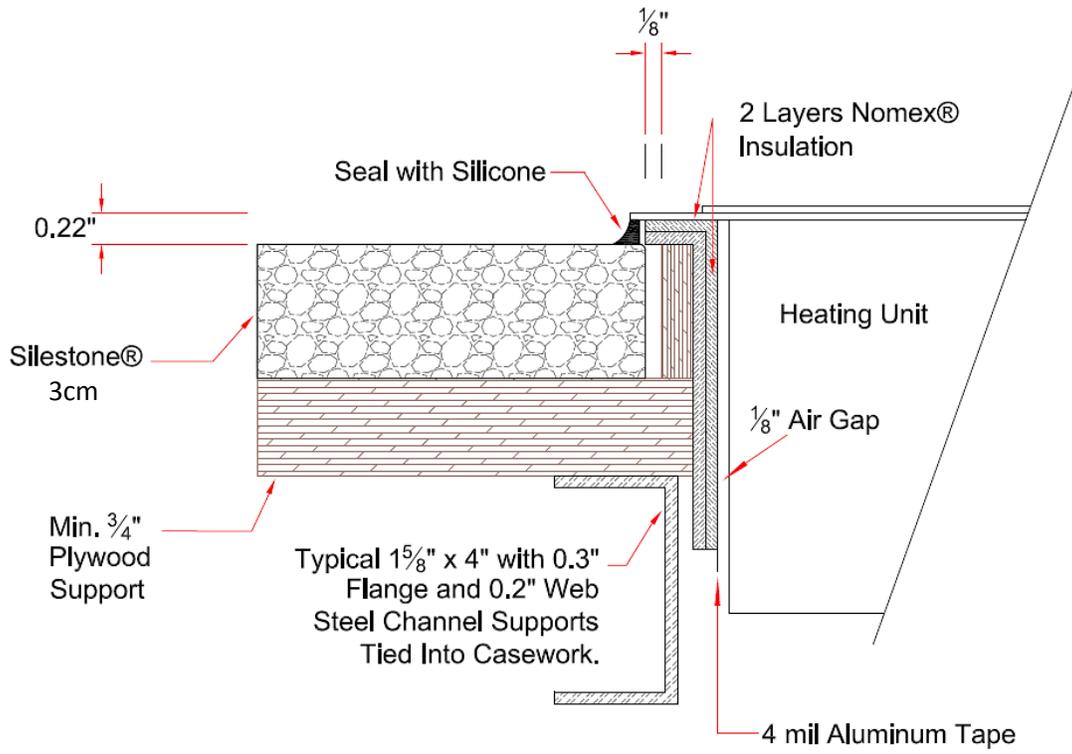


FIGURE III
Seam Support Example

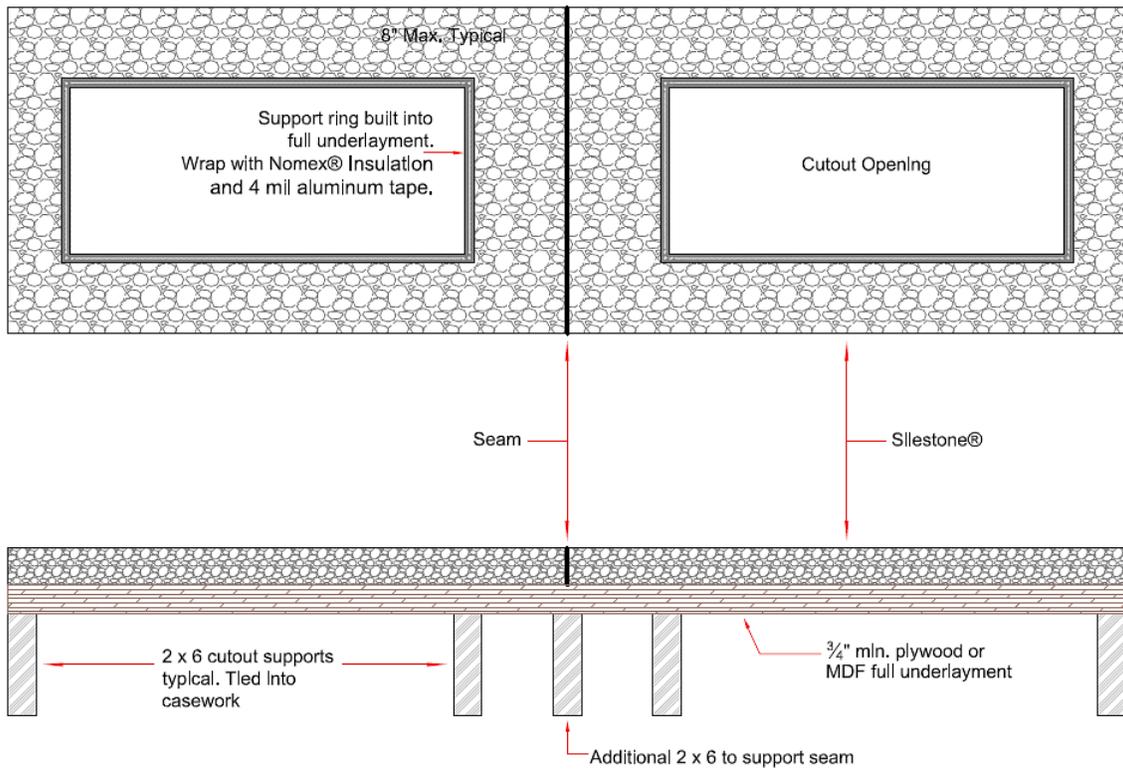


FIGURE IV

Cross-sectional Drawing of Installed Hot Wells

