



LACCD EMERGENCY OPERATIONS CENTER SAFETY ADVISORY

MEASURES TO ENSURE PHYSICAL DISTANCING: PHYSICAL BARRIERS

August 18, 2020

INTRODUCTION

The Los Angeles County Department of Public Health (LACDPH) has confirmed the Los Angeles Community College District (LACCD) can move forward with on-campus instruction at its nine colleges for classes that support California's essential services workforce infrastructure. This means that a limited, predetermined number of students and faculty will have access to the nine colleges. Accordingly, the LACCD Emergency Operations Center has established best practices for the design, installation, and maintenance of impermeable physical barriers, such as sneeze guards and partitions, particularly in areas where it is difficult for individuals to remain at least six feet apart. Setting up barriers will provide students and instructors protection from airborne viral droplets.

BEST PRACTICES FOR DESIGNING TRANSPARENT PARTITIONS

- The most critical factor for a partition is sizing to a dimension that exceeds the breathing zone of the partition users (student and staff). The breathing zone is the pocket of air from which a person draws breath, and can be visualized as a bubble with a radius of 12" extending from the mid-point between a person's ears. Thus, the height of the partition is sized to the tallest user, and the way in which the user will approach and use the partition.
- The width of the partition should account for user behavior, including the likelihood that users will attempt to move to the side to speak around the barrier. Currently, industry best practice is to make the partition as wide as the surface, desk, or countertop will allow.
- Transparent barriers often need openings to allow limited interactions (e.g., a document slot, point of sale). These slots should be kept as small as possible, dependent on the activity, and should be placed so as to not compromise the breathing zone of either user. Open slot (typically 4" x 10") should be placed off-center, rather than directly in front of the seated person's face.

TRANSPARENT SNEEZE GUARDS AND PARTITION OPTIONS

- Partitions are typically surface-mounted using brackets or clamps, free-standing, or hung from the ceiling. The partition should be designed so as to minimize airflow around the edges of the partition. Some partition designs include wings or side panels that may be necessary to provide stability such as in free-standing designs, but may also help to further shelter the user's breathing zone. These side panels may be attached by flexible PVC hinges, steel connectors, or tape to prevent airflow through the seams.
- Hanging partitions should be avoided because of a large gap between the panel and the countertop, allowing air to flow through. Furthermore, if the partition is able to swing, it may blow air from one user to another and are more difficult to clean.

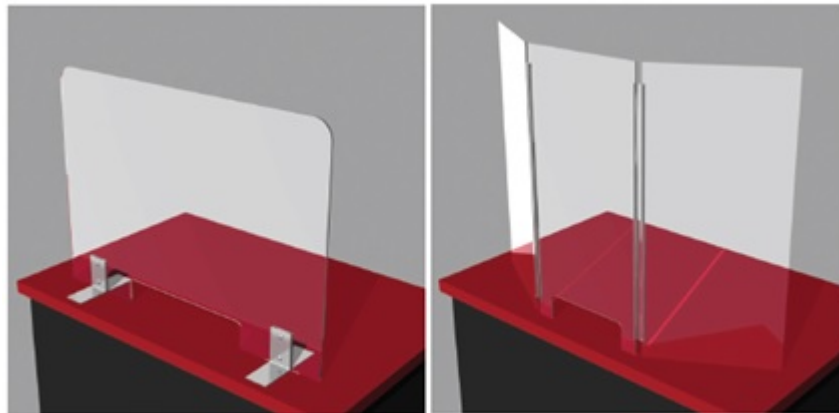


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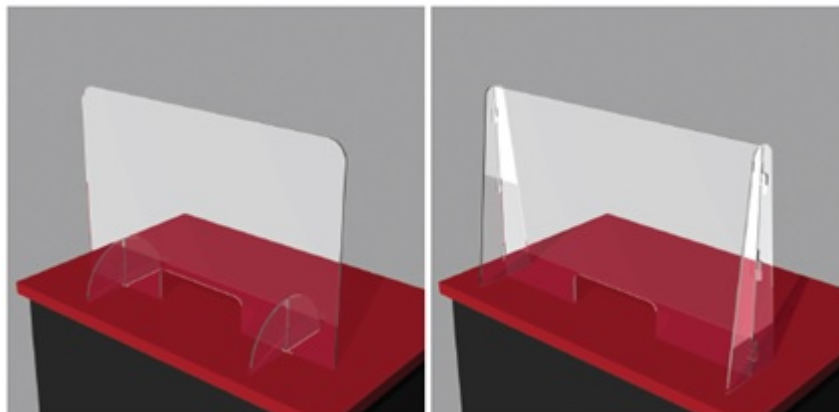
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- Surface-mounted or free-standing partition is preferred and may be advisable to use temporary adhesive products such as Velcro or two-sided tape to ensure that free-standing partitions remain in place. Wheeled partitions should be used cautiously due to chance of these being knocked over.



Sneeze Guard - w/Brackets

Sneeze Guard - Hinged



Sneeze Guard - w/Feet

Sneeze Guard - w/Hooks

TRANSPARENT PARTITION MATERIAL

- Acrylic is the ideal material for sneeze guards and partitions because of the high clarity, easy to clean and cut to size with standard tools. Acrylic (polyacrylate) is marketed under many trade names including Plexiglas, Lucite, Perspex, Policril, Gavrieli, Vitroflex, Limacryl, R-Cast, Per-Clax, Plazcryl, Acrylex, Acrylite, Acryplast, Altuglas, Polycast, Oroglass, and Optix.



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- Polycarbonate, such as Lexan, are more expensive than acrylic, yellows with prolonged exposure to sunlight, and is much more easily scratched.

ACRYLIC SIZE AND THICKNESS

- Acrylic sheets are available in a variety of sizes, thicknesses, and edge finishes. Common sizes include 24" x 48", 48" x 96", 18" x 24", and 36" x 36".
- Common thickness is 1/8" and 1/4". LACCD requires a minimum 1/8" thickness to comply with ANSI Z97 while 1/4" sheets are recommended for added durability and lifespan.

WORKING WITH ACRYLIC

Acrylic sheets can be cut, glued and drilled using the following methods:

- Cutting – For straight cuts, the Score and Break method uses a plastic-scoring blade and straightedge as a guide. Score the acrylic several times along the same line, then place the acrylic on the edge of the table and use light, quick pressure to snap the piece in two. Circular Saw method uses more traditional blade tools such as a jigsaw, band saw, or table saw. High tooth-count plastic-cutting blades are available for these tools, and are recommended. Router method works best for cutting shapes.
[Video: How to cut acrylic or polycarbonate sheets](#)
- Gluing - Acrylic is typically glued using solvent-based glues, such as Weld-On 4. Squeeze-bottle applicator with a needle tip is recommended.
- Drilling - For thin sheets, use a step drill bit instead of a conventional metal or wood drill bit. For a thick piece of acrylic, use conventional drill bit but first place a piece of masking tape over the area to be drilled. If the hole is especially thick, spray some WD-40 to act as a lubricant. This will help remove chips and dissipate heat as the hole is drilled.

CLEANING AND SANITIZING ACRYLIC PANELS

- Soapy water is the safest and most effective cleaning solution for acrylic. Avoid ammonia-based products, like Windex or other home glass cleaners, because they contain harmful chemicals that will actually damage the surface leaving it cloudy looking. Use a Micro-fiber type of cloth instead of paper towels to avoid scratches.
- Disinfect using cleaning wipes with at least 70% alcohol, hydrogen peroxide, bleach, isopropyl alcohol or ethyl alcohol, or other acrylic approved disinfectants. Wear disposable gloves when cleaning or disinfecting surfaces and discard into the trash after each use. Prolonged exposure to cleaning materials can cause clear acrylic to stiffen, crack, or become hazy, so it is crucial to properly wipe down and dry the surface after each cleaning.








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This safety advisory recommends the following barrier items for use at all district locations:



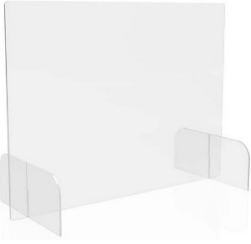


ITEM	DESCRIPTION
	<u>.093 ACRYLIC SHEET</u> <ul style="list-style-type: none">• 24" x 48"
	<u>.220 ACRYLIC SHEET</u> <ul style="list-style-type: none">• 24" x 48"
	<u>.093 ACRYLIC SHEET</u> <ul style="list-style-type: none">• 48" x 96"
	<u>.220 ACRYLIC SHEET</u> <ul style="list-style-type: none">• 48" x 96"
	<u>.093 ACRYLIC SHEET</u> <ul style="list-style-type: none">• 36" x 36"



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ITEM	DESCRIPTION
	<p><u>.220 ACRYLIC SHEET</u></p> <ul style="list-style-type: none">• 30" x 36"
	<p><u>.220 ACRYLIC SHEET</u></p> <ul style="list-style-type: none">• 18" x 24"
	<p><u>Countertop Safety Barrier Full Shield with Feet</u></p> <ul style="list-style-type: none">• 31"w x 23"h• 3/16" Acrylic
	<p><u>Countertop Safety Barrier with Full Shield</u></p> <ul style="list-style-type: none">• 27"w x 24"h• 3/16" Acrylic
	<p><u>Countertop Safety Barrier with Full Shield</u></p> <ul style="list-style-type: none">• 31.75"w x 36"h• 3/16" Acrylic



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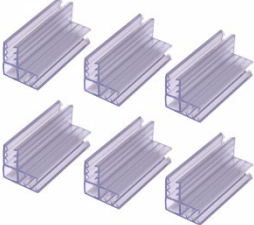

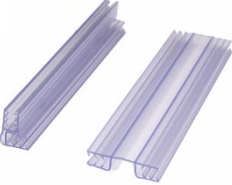

ITEM	DESCRIPTION
	<p><u>Countertop Safety Barrier Full Shield with Feet</u></p> <ul style="list-style-type: none">• 15.5"w x 31.5"h• 1/4" Acrylic
	<p><u>Countertop Safety Barrier with Pass-Thru</u></p> <ul style="list-style-type: none">• 23.5"w x 31.5"h• 1/4" Acrylic
	<p><u>Countertop Safety Barrier with Pass-Thru</u></p> <ul style="list-style-type: none">• 47.5"w x 31.5"h• 1/4" Acrylic
	<p><u>Classroom Bent-Edge Desktop Barriers</u></p> <ul style="list-style-type: none">• 22"w x 16"d x 24"h• 0.125" Polycarbonate
	<p><u>Classroom Hinged-Edge Desktop Barriers</u></p> <ul style="list-style-type: none">• 22"w x 16"d x 24"h• 0.125" Polycarbonate



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	<p><u>T Shaped Gripper Connectors</u></p> <ul style="list-style-type: none">• Plastic• Adhesive strip
	<p><u>90 Degree L Connectors</u></p> <ul style="list-style-type: none">• Plastic
	<p><u>180 Degree H Connectors</u></p> <ul style="list-style-type: none">• Plastic
	<p><u>Flexible Hinge Connectors</u></p> <ul style="list-style-type: none">• Plastic
	<p><u>90 Degree L Connectors Connector</u></p> <ul style="list-style-type: none">• Metal



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	<p><u>Free-Standing Brackets</u></p> <ul style="list-style-type: none">• Metal
	<p><u>Free-Standing Mount Brackets</u></p> <ul style="list-style-type: none">• Metal
	<p><u>Top Clamp Mount Bracket</u></p> <ul style="list-style-type: none">• Metal
	<p><u>Desk Edge Clamp Mount Bracket</u></p> <ul style="list-style-type: none">• Metal