SPECS

a. Deterioration of metals, metal finishes, dome, and other materials beyond normal weathering.
b. Breakage of glazing.

Warranty Period:
a. Tubular Unit Skylight Assembly: 10 years from date of purchase.
b. Tunnel Reflective Coating: 20 years from date of purchase.

PRODUCTS

2.01 Velux America, Inc. Model TCC Commercial Curb Mount Sun Tunnel Skylight. 22 inch diameter.

2.02 Roof Curb Counterflashing: One-piece, formed low slope curb counterflashing suitable for installation on roof curb up to 60 deg. from horizontal.
1. Material: Galvanized steel sheet, 0.023-inch/24-ga thick.
a. Dimensions: Curb-mounted, 31 inches square with 3 inch vertical counterflashing lip.
b. Finish: Powder coat, gray.
2. Flashing Insulator: Manufacturer's standard closed-cell thermal isolation material affixed to underside of flashing.
3. Intermediate Ring: High-impact plastic reflective tunnel receiver attached to top of roof curb counterflashing base serving as mounting base for dome assembly and providing a thermal break between counterflashing base and reflective tunnel, configured to channel condensed moisture out of assembly.
a. Intermediate Ring Seal: Santoprene O-ring providing weather tight seal with roof curb counterflashing.
b. Pivot Ring and Reflective Tunnel Collar: High-impact plastic pivoting socket mounts in intermediate ring and secures to factory-installed tunnel collar; adjustable to allow increased adjustability for proper alignment of tunnel sections.

2.03 Flashing Accessories: Manufacturer's standard turret risers, 12 inches high matching counterflashing metal and finish.

2.04 Reflective Tunnel: Skylight light shaft formed from Class II anodized aluminum sheet, 0.016-inch/26-ga. thick, with silver specular interior finish coated with vacuum-evaporated silicone oxide and titanium oxide protective surface that protects the tunnel surface from corrosion and provides a long life of reflection characteristics.

2.05 Reflective Tunnel Components: Provide components indicated and as required for installation based upon roof, ceiling, and structural member configuration, skylight and diffuser locations indicated on Drawings, and manufacturer's recommendations, selected from the following:
1. Rigid Tunnel Extensions: Reflective extension tube, lengths as required for application.
2. Reflective Tunnel Fastening System: Manufacturer's recommended fastening devices consisting of spring tempered stainless steel pull clip mechanical fasteners allowing tunnel vertical and horizontal joints to be secured without the use of screws or tools, used in conjunction with pre-located punched holes in tunnel sections, that allow for a tight naturally-occurring tapered mating of interconnecting tunnel sections and elbows

2.06 Round Diffuser Assemblies for Finished Ceiling Applications: Round ceiling diffuser assembly attached directly to bottom of tunnel, dual high visible light transmittance lenses with insulating airspace, airtight seals, and paintable white acrylic trim ring.
Lens Type: Fresnel lens with concentric honeycomb parabolic light-diffusing prisms.

2.07 Materials
1. Galvanized-Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating, either commercial steel or forming steel.
2. Aluminum Sheet: Flat sheet complying with ASTM B 209/B 209M.
3. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, formulated for 15-mil dry film thickness per coating.
4. Joint Sealants.
5. Mastic Sealants: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
6. Roofing Cement: ASTM D 4586, asbestos free, designed for trowel application or other adhesive compatible with roofing system.

EXECUTION

3.01 Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Proceed with tubular skylight installation only after unsatisfactory conditions have been corrected.

3.02 Installation
1. Install tubular unit skylights in accordance with manufacturer's written instructions and approved shop drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.
2. Anchor tubular unit skylights securely to supporting substrates.
3. Where metal surfaces of tubular unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by tubular unit skylight manufacturer.
4. Install tubular unit skylight curb counter flashing to produce weatherproof seal with curb and overlap with roofing system termination at top of curb.

3.03 Cleaning And Protection
1. Clean exposed tubular unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
2. Replace glazing that has been damaged during construction period.
3. Protect tubular unit skylight surfaces from contact with contaminating substances resulting from construction operations.

DIVISION 9 FINISHES
Not Used

DIVISION 10 SPECIALTIES
Not Used

DIVISION 11 EQUIPMENT
Not Used

DIVISION 12 FURNISHINGS
Not Used

DIVISION 13 SPECIAL CONSTRUCTION
Not Used

DIVISION 14 CONVEYING SYSTEMS
Not Used

DIVISION 15 MECHANICAL
Not Used

DIVISION 16 ELECTRICAL

GENERAL
1.01 Summary of work.
Provide new lighting in canopy ceiling structure and on exterior wall locations.

Provide electrical systems required to tie into existing house panel.

Coordinate work with demolition contractor to remove existing lighting and remove wiring that will be abandoned.

1.02 Work to comply with NFPA (National Fire Protection Assoication), OSHA (Occupational Safety and Health Act), NEC (National Electrical Code - NFPA70), UL (Underwriters Laboratory), NESC (National Electrical Safety Code), IBC (International Building Code 2009) and Local and State codes.

The scope of work is intended to comply with all the above mentioned Codes, Rules and Regulations. If discrepancies occur, the Electrical Subcontractor shall immediately notify the Architect in writing of said discrepancies and apply for an.

1.03 The Electrical Subcontractor shall file plans, obtain permits and licenses, pay fees and obtain necessary inspections and approvals from authorities that have jurisdiction, as required to perform work in accordance with all legal requirements.

1.04 Coordination with Local Utility Companies: The Electrical Subcontractor shall coordinate with the local Power Utility as needed. The Owner shall be responsible for paying any utility charges and excess costs. The Electrical Subcontractor shall perform all work in accordance with utility company requirements.

MATERIALS

2.01 General Requirements: All equipment and materials shall be new and of the quality specified. All materials shall be free from defects at the time of installation. Materials or equipment damaged in shipment or otherwise damaged during construction shall not be repaired at the jobsite, but shall be replaced with new materials.

2.02 Representation of Equipment: All equipment installed on this project shall have local representation, local factory authorized service and a local stock of repair parts.

2.03 Warranties: No equipment or material shall be installed in such a manner as to void a manufacturer's warranty. The Electrical Subcontractor shall notify the Architect of any discrepancies between the Contract Documents and manufacturer's recommendations prior to execution of the work.

2.04 Shop Drawings: After the Contract is awarded, but prior to proceeding with the
Work, the Electrical Subcontractor shall obtain complete shop drawings, and product data from manufacturers, suppliers, or vendors. Submit data and details of such materials and equipment for review by the Architect. The shop drawing submittal shall include all data necessary for interpretation as well as manufacturer's name and catalog number. Sizes, capacities, colors, etc., specified on the drawings shall be specifically noted or marked on the shop drawings. Do
not submit catalogs that describe products, models, options or accessories, other than those required, unless irrelevant information is marked out or unless relevant information is highlighted clearly. Proposal of Other Equipment: If the Electrical Subcontractor proposes an item of equipment other than that specified or detailed on the drawings which requires any redesign of the wiring or any other part of the mechanical, electrical or architectural layout, the required changes shall be made at the expense of the trade furnishing the changed equipment at no cost to the Owner.

2.05 Equipment Manuals. The Electrical Subcontractor shall provide three copies of
operations and maintenance manuals for all items. These manuals shall be packaged with additional information including equipment cur sheets and as-built wiring diagrams. Manuals shall contain names and addresses of manufacturers and local representatives who stock or furnish repair parts for items or equipment.

2.06 Record Drawings. As work progresses, and for duration of the Contract, the Electrical Subcontractor shall maintain a complete and separate set of prints of Contract Drawings at job site at all times and record work completed and all changes from original Contract. Drawings shall clearly and accurately include work installed as a modification or added to the original design. At completion of work and prior to final request for payment, the Electrical Subcontractor shall submit a complete set of reproducible record drawings showing all systems as actually installed.

EXECUTION

3.01 Panelboards: All panelboards, indoor transformers, cabinets and other specified equipment shall be labeled with engraved laminated plastic plates, minimum 3/4" high with 3/8" engraved letters. Punch tapes with mastic backings are not acceptable.

3.02 Temporary Lighting: The Electrical Subcontractor shall furnish all lamps, both initial and replacement, used for the temporary lighting system.

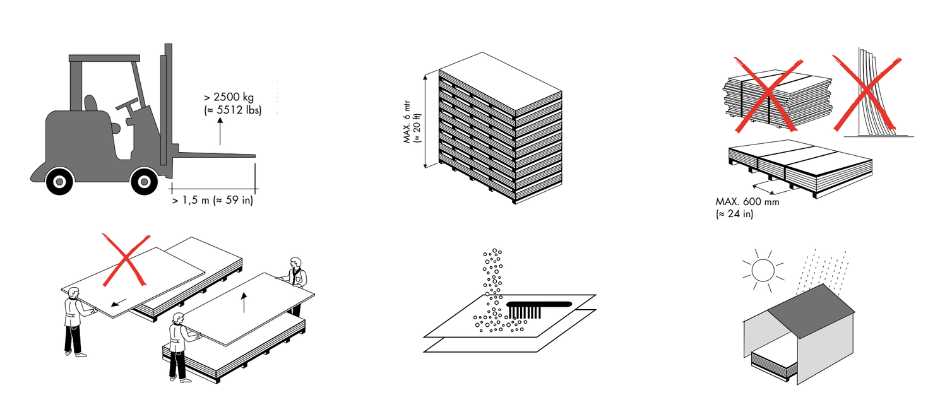
3.03 Reimbursable Items: The General Contractor and all subcontractors shall reimburse the Electrical Subcontractor for the following:
A. Any temporary wiring of a special nature, other than that specified above, required for their work.
B. Any temporary wiring of construction offices and buildings used by them, other than the office of the General Contractor and the Clerk of the Works.

3.04 Removal of equipment and wiring: All temporary wiring, service equipment, and accessories thereto shall be removed by the Electrical Subcontractor when directed by the General Contractor.

TRANSPORT, HANDLING AND STORAGE OF TRESPA® PANELS

This document is intended to provide general recommendations only. Trespa provides these guidelines and all testing, code and design data for informational purposes only and strongly advises that the customer, project owner and architect seek independent advice from a certified construction professional and/or engineer regarding application and installation as well as compliance with design requirements, applicable codes, laws and regulations, and test standards. Please check your local codes and applicable design requirements for proper use.

General
Handling and moving panels should only be undertaken by trained personnel using the correct equipment. Trespa® panels are decorative high-pressure compact laminates consisting of layers of wood-based fibers, impregnated with thermosetting resins. Panels should be handled with care to prevent damage to the decorative surface. Furthermore, treat the panels similar to treating hardwood.



Transport
- Use a proper forklift with a load capacity of at least 2500 kg (≈ 5512 lbs) and forks with a minimum length of 1.5 meters (≈ 59 in).
- Secure the panels with steel straps during transit.
- Fit protective corner sections under the straps.

Handling
- Treat panels with care.
- Do not slide panels. Lift panels when moving.
- Prevent dirt on and between the panels.
- Use adhesive stickers for marking / coding and remove immediately after installation.

Storing
- Store panels in a dry, clean, frost-free room.
- Maximum stack height = 6 m (≈ 20 ft).
- Place pallets and panels on a level surface which provides full support.
- Keep panels in the original packaging.
- Remove steel straps if the panels are to be stored for a long time.
- Prevent a film of moisture from forming between the panels.
- Do not place any moisture-sensitive (paper) layers between the panels.
- Prevent unbalanced (one side only) moisture or temperature exposure by:
  1. Removing any protective foil within 24 hours when panels are no longer stacked as a package.
  2. Leaving panels lying flat on top of each other.
  3. Avoiding cavities between the panels e.g. due to panels having been machined.

Please check **www.trespa.info** for more technical details or contact your local Trespa representative.

MACHINING TRESPA® METEON®

This document is intended to provide general recommendations only. Trespa provides these guidelines and all testing, code and design data for informational purposes only and strongly advises that the customer, project owner and architect seek independent advice from a certified construction professional and/or engineer regarding application and installation as well as compliance with design requirements, applicable codes, laws and regulations, and test standards. Please check your local codes and applicable design requirements for proper use.

General
Machining panels should only be done by a machining or construction professional with proper equipment.

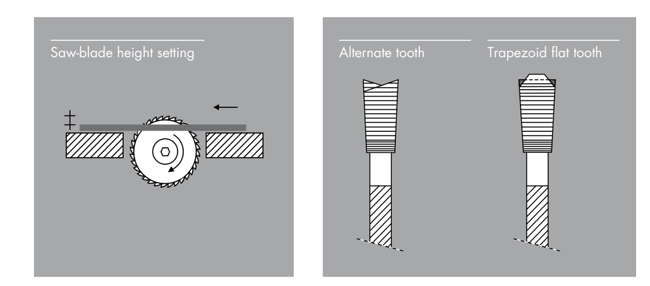
The homogeneous composition of the material makes it possible to machine both the sides and the surface. Machining Trespa® panels is comparable to machining high quality hardwood. Trespa® panels may be machined using carpentry tools. The hardness of Trespa® panels makes greater demands on tools than machining materials composed of softwood. The use of hard metal tools is advised. Diamond-tipped tools are recommended for large series. This ensures a very good finish and a long tool life.

Health and safety
Please note that serious dangers are inherent with the use of (carpentry) machinery. In all cases, adhere strictly to the guidelines of the machinery manufacturers and the recommendations of the safety and labor organizations.

Transport and handling
In general, lift the Trespa® panels and avoid sliding them as much as possible, also during transport and assembly.

Additional guidelines apply for Trespa® Meteon® Gloss or other Trespa® panels provided with a protective foil:
- Do not remove protective foil during machining.
- Machine preferably using computer operated equipment.
- Do not write directly on the protective foil but use adhesive stickers for marking/coding.
- Remove only the foil in the affected areas in case of the foil burns or melts during machining.

Sawing
The following general guideline apply to sawing of Trespa® Meteon® panels.
- Feed: 7 - 22 m/min (≈ 23 - 72 ft/min).
- Tooth: Alternate tooth or trapezoid flat tooth.
- Positioning: Entering tooth always at the decorative side of the Trespa® panel.
- Cutting edges: Best results are obtained with stationary machines. Any sharp edges can be removed with sandpaper or router.
- Rake angle: A rake angle of 45° gives the best performance.
- Use insert templates covered with rubber mats to prevent the Trespa® panels from sliding if the machine does not have a moving worktop and/or if you are machining double-sided panels.



Stationary circular saw
Have the decorative side facing upwards when sawing, drilling and routing.
When a decorative side must be slid over the machine's worktop while machining, it is recommended to place a protective panel, for example of hardwood, on the worktop.

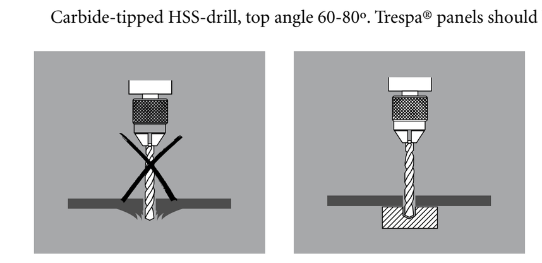
Diameter		Teeth	Number of revolutions	Saw blade thickness		Saw blade height setting	
mm	inch			mm	inch	mm	inch
300	≈ 12	72	≈ 6,000/min	3.4	≈ 1/8	30	≈ 1 1/4
350	≈ 14	84	≈ 5,000/min	4.0	≈ 3/16	35	≈ 1 3/8
400	≈ 16	96	≈ 4,000/min	4.8	≈ 3/16	40	≈ 1 5/8

Portable circular saw
When using a portable circular saw, the non-decorative side should be upwards.

Diameter		Teeth	Number of revolutions	Blade thickness		Height setting	
mm	inch			mm	inch	mm	inch
150	≈ 6	36	≈ 4,000/min	2.5	≈ 1/8	15	≈ 5/8
200	≈ 8	46	≈ 4,000/min	3.0	≈ 1/8	20	≈ 3/4

Jig saw
- Jig saw: carbide-tipped, interior corners of cut-outs should be drilled first with 8 - 10 mm (≈ 5/16 - 3/8 in) hole diameter.
- Consider the use of a specific jig saw blade for decorative surfaces.

Drilling
Carbide-tipped HSS-drill, top angle 60-80°. Trespa® panels should be drilled with support sheets.



Diameter		Number of revolutions	Feed	
mm	inch		mm/min	inch/min
5	≈ 1/4	≈ 3,000/min	60 - 120	≈ 2 - 5
8	≈ 5/16	≈ 2,000/min	40 - 80	≈ 1 1/2 - 3
10	≈ 3/8	≈ 1,500/min	30 - 60	≈ 1 - 2

Large holes, e.g. for suspension and locking equipment, are to be drilled with combination drills without a centering point.

Routing
Routing shapes:
- straight and slanted bits for cutting edges and beveling;
- hollow or round ground bits for rounded edges;
- diamond groove-circular saw blades for grooves.

Material:
- cutters made of hard metal or diamond.

Manually operated routing cutter or spindle molder:

Diameter		Number of revolutions	Speed		Feed	
mm	inch		m/s	ft/s	m/min	ft/min
20 - 25	≈ 1	≈ 18,000 - 24,000/min	20 - 30	≈ 65 - 100	5	≈ 16
125	≈ 5	≈ 6,000 - 9,000/min	40 - 60	≈ 130 - 200	5 - 15	≈ 16 - 50

DESIGNING & INSTALLING TRESPA® METEON® AND TRESPA® VIRTUON® IN SPECIFIC VARIATIONS

This document is intended to provide general recommendations only. Trespa provides these guidelines and all testing, code and design data for informational purposes only and strongly advises that the customer, project owner and architect seek independent advice from a certified construction professional and/or engineer regarding application and installation as well as compliance with design requirements, applicable codes, laws and regulations, and test standards. Please check your local codes and applicable design requirements for proper use.

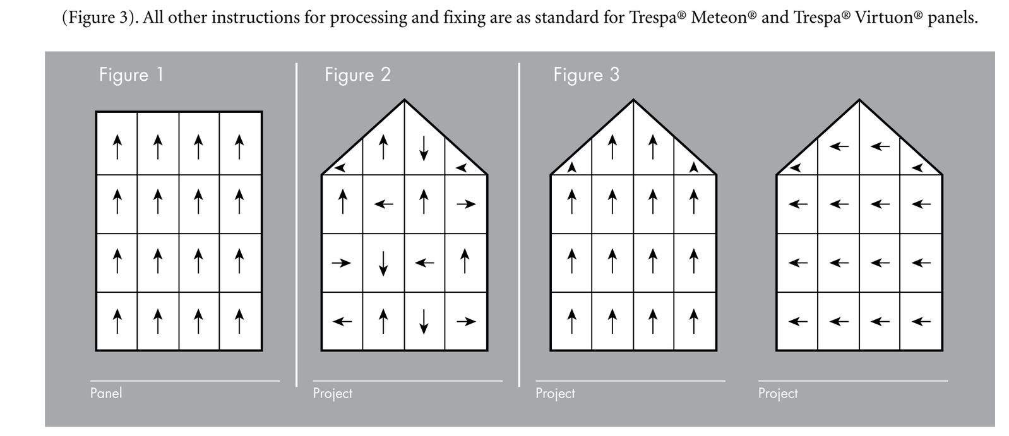
General
The following aspects must receive attention when designing and installing Trespa® Meteon® and Trespa® Virtuon® panels in specific colors, decors and finishes.

Panel directionality (Metallics, Wood Decors and Naturals)
Directionality of the panel is an important feature to consider during the design and installation of a facade or other exterior application. In case of directionality, special measures need to be observed. Whether panels feature a directional colored surface depends on the color, decor or finish.

- Trespa® Meteon® and Trespa® Virtuon® Uni colors panels feature a *non-directional* colored surface.
- Trespa® Meteon® Metallics and Trespa® Virtuon® Metallics panels feature a *directional* colored surface.
- Trespa® Meteon® Wood Decors and Naturals panels (NW and NA) feature a *directional* colored surface. The grain of Trespa® Meteon® Wood Decors runs the length direction of the panel.

Arrows on the reverse side of the full size Trespa® panels have been applied by Trespa to indicate the direction in which the panels have been produced (Figure 1). When cutting the panels, temporarily mark the original production direction on the visible side of the individual panels by using adhesive stickers and remove them immediately after installation. This will make the fixing of the panels in the same direction easier.

Special effects can be created by installing directional colored Trespa® Meteon® and Trespa® Virtuon® panels with random orientation (Figure 2). On the other hand, to achieve a more coherent appearance, install the panels in the same orientation (Figure 3). All other instructions for processing and fixing are as standard for Trespa® Meteon® and Trespa® Virtuon® panels.



Single batch ordering (Metallics)
The quantity of Trespa® Meteon® and Trespa® Virtuon® Metallics panels required for a project must be ordered and supplied as a single instruction in order to ensure a fully consistent and uniform appearance.

Susceptibility to scratching (Gloss finish)
Smooth glossy surfaces, such as Trespa® Meteon® panels with a Gloss finish, are apt to show minor scratching more than a matted or textured surface like Trespa® Meteon® with a Satin or Rock finish. Trespa recommends the use of a Satin or Rock finish in applications with an aggravated risk on mechanical loads.

Fixing distances (Gloss finish)
Based on the surface properties of Trespa® Meteon® Gloss panels, fixing distances must be reduced compared to other finishes. For more details, please visit **www.trespa.info/Meteon/fixingsystems**

CANOPY RENOVATION
290 CONGRESS STREET
PORTLAND, ME

LICENSED ARCHITECT
James Pratt
3597
STATE OF MAINE

WHIPPLE | CALLENDER ARCHITECTS
P.O. BOX 1276
PORTLAND, ME 04104
P 207.775.2696
F 207.775.3631
www.whipplecallender.com

MARK	DATE	DESCRIPTION
	06.05.14	PERMIT AND BIDDING SET

DATE: 06/05/14
CHECKED BY: AEC
DRAWN BY: JRP/AEC
JOB: 14-CPF
SHEET TITLE: SPECIFICATIONS

A0.3