

INTENTEK™ WIRELESS CHARGING SURFACE



TECHINCAL GUIDE USE & CARE, WARRANTY, AND INSTALLATON GUIDE

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USE & CARE / SAFETY

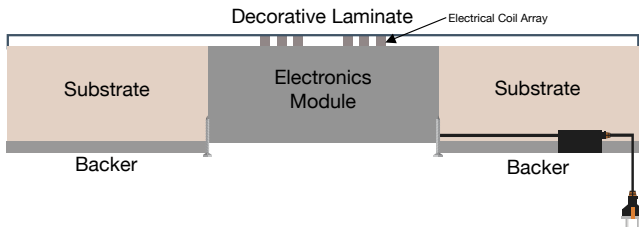
INTRODUCTION

Intentek™ Wireless Charging Surfaces feature integrated phone charging technology within the decorative laminate surface for a beautiful, seamless, clutter-free design and superior user experience.

- Embedded technology for an uninterrupted surface
- Fast charge times that rival cord charging
- Large 2"x2" charging zone for a simple drop and charge user experience
- Qi Certified for safe, reliable wireless power transfer and device protection
- Works with all Qi certified devices
- Durable laminate surface
- Easy to clean and maintain
- Full range of Formica® Brand Laminate designs

INTENTEK™ SYSTEM COMPONENTRY PROVIDED BY FORMICA GROUP

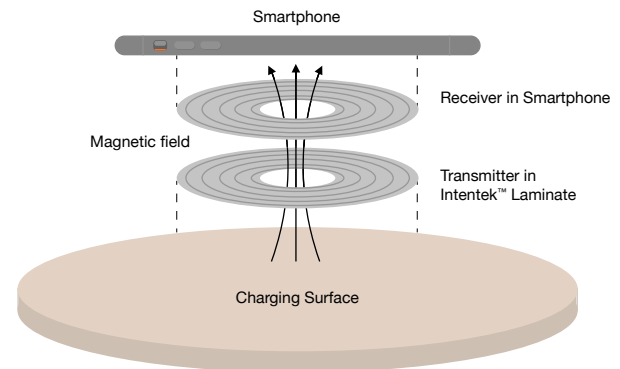
- Intentek™ Laminate
- Intentek™ Laminate backer
- Intentek™ Electronics universal AC power adapter
- Intentek™ Electronics Module



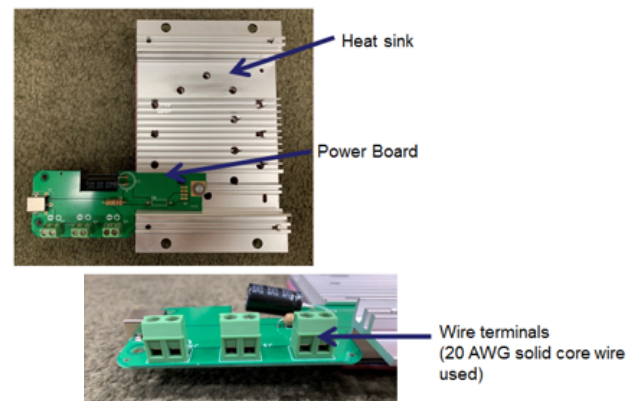
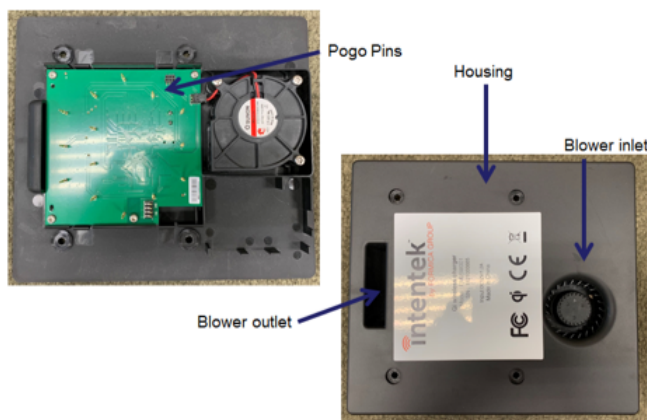
WHAT IS WIRELESS CHARGING?

Wireless charging, also known as wireless power transfer, provides the ability to charge a device without charging cables. The Intentek™ System uses the Qi wireless charging standard which provides safe and reliable wireless power transfer. The power is transferred from the Qi wireless transmitter to the Qi wireless receiver via magnetic resonant induction. The magnetic field is generated in the transmitter coils by a time-varying electric current. This time-varying magnetic field generates an alternating electric current in the receiver coil which is rectified and used to charge the battery.

The diagram below demonstrates this concept.



ELECTRONICS MODULE PARTS



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WPC, QI AND QI CERTIFICATION

Qi (pronounced “chee”) is the predominant standard for wireless charging. The standard is governed by the Wireless Power Consortium (WPC) which has more than 575 member companies. To date, more than 500 million Qi enabled receivers have been shipped.

Qi Certified products have passed rigorous, independent laboratory tests for safety, interoperability, energy efficiency and quality. To be certified, they must work with all Qi wireless products regardless of brand or manufacturer. Qi certification ensures that devices (the power receivers) and chargers (the power transmitters) always worktogether for simple and easy charging.

INCORPORATION OF INTENTEK™ WIRELESS CHARGING SURFACES INTO FURNITURE DESIGN: TIPS & BEST PRACTICES

Location of the charging zones will vary from project to project. The following points represent tips and best practices that should be considered for placement of the charging zones only. Formica Group is not responsible and assumes no liability for the design, engineering, installation, assembly or structural integrity of the fabricated piece.

- Cavity for electronics module must be at least 1" from all edges of table/top.
- Blower direction can point up, down, left, or right (at 90°, 180°, 270°, or 360°).



- Blower inlet and outlet cannot be covered by pedestal, leg, or other obstruction.



- When placing charging zones near each other, we recommend .. at least 11" is left between center points of the charging icons. The electronic module casing must be at least 1" apart.
- When placing two electronics modules near each other, a blower inlet must be at least 8" from another blower's outlet. This rule is to be followed only if blower inlet and outlet are designed to be near each other.
- If IntenteK™ System is going to be used in an enclosed counter (i.e. on top of a cabinet or drawer), the enclosed space must be properly vented. Vent determination is the responsibility of the furniture designer. Venting must be sufficient to support the blower at 2CFM.
- Electronics module cannot be in direct contact with obstructions: edges, screws, pedestals/legs.

TO ORDER

Call 1-800-FORMICA™ or visit here: <https://www.formica.com/en-us/campaigns/intenteK/intenteK-inquiry-form>

GENERAL SAFETY

Please read this Technical Guide, Use & Care, Warranty, and Installation Guide and all warnings contained herein prior to handling the IntenteK™ System.

CUSTOMER SAFETY

1. For indoor use only.
2. Do not overload electrical outlets.
3. AC Adapter must be plugged into a compatible mains supply to operate.
4. IntenteK™ Electronics AC Adapter or equivalent must be used.
5. Never use the AC Adapter if damaged in any way.
6. When using the AC Adapter or extension cord, confirm safety precautions have been made so there are no tripping hazards.
7. Keep any wiring used to connect Electronics Modules covered.

CUSTOMER USE & CARE AFTER INSTALLATION

1. Do not unscrew the electronics module housing without professional support. If internal parts are ever exposed, avoid contact with sharp objects and moisture.
2. May not be housed outside of recommended temperature range.
3. May not be stored outdoors.
4. At all times, keep electronics module and AC adapter away from liquids.
5. Do not place foreign or sharp objects in the electronics module or or blower inlet/outlet.
6. Follow all cleaning instructions for decorative surface. Do not attempt to clean inside of electronics module.

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SCRATCH AND IMPACT PROTECTION OF THE DECORATIVE SURFACE

The decorative surface is resistant to scratches and impacts under normal use and cleaning conditions. However:

- Heavy blows may crack or gouge the surface.
- Sharp or abrasive objects and unglazed ceramics materials may slice, scratch or cause premature wear on the surface.
- Abrasive pads, scouring powders or cleaners may permanently dull and scratch the decorative surface.

HOT OBJECTS

Hot objects, such as cookware, irons, hot appliances, cigarettes, etc. should not be placed directly on decorative surfaces. Use a trivet, insulated hot pad or other protective device beneath all hot cookware, heat generated appliances or other heated objects.

Prolonged exposure to temperatures of 140°F (60°C) or higher may cause the laminate to separate from the core material. IntenteK™ Laminate surfacing material can withstand heat up to 275°F (135°C) for short periods of time.

ORDINARY CLEANING OF THE DECORATIVE SURFACE

Decorative surface may be cleaned with a damp cloth and mild detergent. Use of abrasive cleaners, powders, scouring pads, steel wool, or sandpaper can damage the finish of the decorative surface. Acid, or alkaline-based cleaners and/or compounds will mar, etch, corrode, and permanently discolor the melamine decorative surface.

Do not use these cleaning materials on decorative laminate, nor allow bottles and/or rags contaminated with acid or alkaline-based cleaners/compounds to contact the surface. Accidental spills or splatters from these harsh materials should be wiped off immediately, and the area cleaned with a damp cloth.

Examples of cleaners containing acid, or alkali include, but are not limited to:

- ceramic cooktop cleaners
- oven cleaners
- rust removers
- coffeepot cleaners
- drain cleaners
- lime scale removers
- toilet bowl cleaners
- metal cleaners
- tub and tile cleaners

If in doubt about the suitability of a particular cleaner or detergent, check with its manufacturer.

Additional Special Cleaning information can be found in the [Formica® Brand Laminate Use and Care Guide available on Formica.com](#)

DISINFECTING RECOMMENDATIONS

The following branded cleaners and disinfectants are approved for IntenteK™ when used according to recommended guidelines. The products are grouped by active ingredient type. All

products on these lists meet the EPA's criteria for use against SARS-CoV-2, the virus that causes COVID-19. To avoid surface damage or discoloration, wipe the surface clean to avoid leaving disinfecting liquid open on the surface. It is also recommended to follow disinfecting with a warm water wash using a soft cloth and then dry the surface. Always follow the manufacturers' guidelines and safety precautions for these products.

For EPA updates on the current List N and Frequently Asked Questions about disinfectants related to coronavirus visit:

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

QUATERNARY AMMONIUM

Clorox® Disinfecting Wipes

Clorox Healthcare® VersaSure® Wipes

Lysol® Brand All Purpose Cleaner

Lysol® Kitchen Pro Antibacterial Cleaner

Virex™ II

Fantastik® Multi-Surface Disinfectant Degreaser

Maquats®

QUATERNARY AMMONIUM: ISOPROPANOL

Super Sani-Cloth® Germicidal Disposable Wipe

Cavicide™ Wipes

Sani-Prime® Germicidal Spray

Opti-Cide3® Wipes

ISOPROPANOL, IPA, RUBBING ALCOHOL,

SODIUM HYPOCHLORITE (BLEACH)

Clorox Healthcare® Bleach Germicidal Wipes

Clorox® Brand Regular Bleach

Sani-Cloth® Bleach Germicidal Wipe

Caviwipes™ Bleach

Dispatch®

Lysol® Brand Bleach Mold/Mildew Remover

All related brands containing bleach

HYDROGEN PEROXIDE

Clorox® Commercial Solutions® Hydrogen Peroxide Disinfectant and wipes

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Oxivir™ Tb and wipes

Accel® TB and wipes

Peroxide Multi Surface Cleaner and Disinfectant

Suretouch®

Oxy-Team™ Disinfectant Cleaner

ORDINARY CLEANING OF UNDERSIDE OF TABLE/ COUNTER

Should cleaning on the underside of the counter/table be needed, avoid exposing the electronics to any liquids.

FABRICATION & INSTALLATION

FABRICATION & INSTALLATION RELATED SAFETY

1. All points in Customer Safety above also pertain to fabrication and installation safety.
2. Fabricators and installers must follow all OSHA/ National Electric Code /UL Standards as required by installation location or customer.
3. Do not power the electronics until fully assembled into a table or top. Make all connections to the IntenTek™ Electronics Module before applying power.
4. IntenTek™ Electronics AC Adapter or equivalent must be used. Formica Group does not recommend or warranty hardwiring.
5. Do not install finished table or top while electronics are powered.
6. Always use recommended wire to connect electronics modules.
7. Always cover wiring underneath table/counter.

INSPECTION

Inspect all materials at the time they are received to ensure all components are free of damage and/or visible defects. Do not assemble materials with known defects. It is the responsibility of the customer/fabricator/installer to inspect materials before installation. Before fabrication, confirm that Computer-Aided Design (CAD) files are available.

STORAGE CONDITIONS

The optimal conditions for storage are 50 – 90°F (10 – 32°C) and 30% – 65% humidity. Keep materials free from moisture, dust, and impact. The material should never be stored in contact with the floor or an outside wall.

Laminate sheets and backers have been shipped in a way to protect both materials. Formica Group recommends that they are stored in the way they are shipped in order to continue to protect until installation.

Due to delicate nature of the coils embedded in the underside of the decorative laminate, do not slide the back of the laminate against another surface. Keep coils covered with the provided covering until cavity has been cut with CNC.

ACCLIMATION CONDITIONS

Prior to fabrication, allow laminate sheet, backer, and substrate to acclimate for at least 48 hours at the same ambient conditions. The optimal conditions for acclimation are 50 – 90°F (10 – 32°C) and 30% – 65% humidity.

FABRICATION CONDITIONS

Laminate sheets, backers, substrate surfaces, and electronic components must be dry, clean and free of all grease, dust, and foreign matter. The optimal conditions for fabrication are 50 – 90°F (10 – 32°C) and 30% – 65% humidity.

INTENTEK™ WIRELESS CHARGING SURFACES MAY BE APPLIED TO

1. Medium Density Fiberboard (MDF)
2. Particleboard
3. Hardwood Faced Veneer Core Plywood, also known as Grade A Faced Plywood

TOOLS & MATERIALS SOLD BY FORMICA GROUP

- IntenTek™ Laminate in the specified quantity
- IntenTek™ Laminate backer in the specified quantity
- IntenTek™ Electronics Universal AC power adapter in the specified quantity



- IntenTek™ Electronics module in the specified quantity



- Test Receiver {Provided to Fabricator Partners Only}
- Test Receiver manual {Provided to Fabricator Partners Only}

ADDITIONAL TOOLS & MATERIALS NEEDED

- Personal Protective Equipment (PPE), examples:
 - Eye protection
 - Dust mask
 - Gloves
 - Hearing protection as needed

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- Approved substrate that is at least ¾" thick
- Panel layup equipment
- Approved adhesives - Polyvinyl acetate (PVA), Polyurethane (PUR), Contact Adhesives
- CNC machine
- CAD program for CNC machine
- Phillips head screwdriver
- A table or work surface
- Depth gauge
- Cleaning cloths
- Cleaner (as recommended by adhesive manufacturer to remove any dried adhesive)

APPROVED ADHESIVES

Polyvinyl acetate (PVA), Polyurethane (PUR), Contact Adhesive

IF MULTIPLE ELECTRONICS MODULES ARE TO BE CONNECTED, ADDITIONAL TOOLS

- Wire cutter
- Wire stripper
- Small slotted screwdriver
- Two colors of 20 AWG solid core wire or thicker

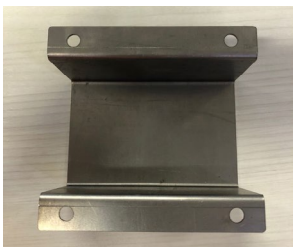


*Corded/stranded wire is not recommended

- Sheathing coverage for wire channels



- 3" alignment screws as needed
- Cradle for AC/DC converter box with screws as needed (to hold adapter under top)



- Alternative length AC Adapter or extension cord as needed

- Edge bander or other method to finish table/counter edging as needed
- Table/counter base as needed

IMPORTANT INSTALLATION TIPS & REMINDERS

- For fabrication techniques specific to working with High Pressure Laminate, refer to the [Formica® Technical and Installation Guide for High Pressure Laminate](#).
- Material, equipment, and workmanship should conform to the Formica Group recommended standard practices, conditions, procedures, and recommendations as specified by ANSI/NEMA LD3-2005, Architectural Woodwork Quality Standards and ANSI A161.2-1998 Standards.
- Fabricating with peel coat on surface is recommended.
- Router base should be clean and free of burrs and debris. All work surfaces should be clean, flat, and free of burrs. Confirm laminate, backer, and substrate are dry, clean and free of all grease, dust, and foreign matter.
- Before beginning, confirm storage, acclimation and fabrication conditions outlined above have been met.

BASIC INSTALLATION STEPS FOR PANEL LAY-UP AND CNC FABRICATION

1. PANEL LAY-UP

1A) SUBSTRATE: Use industrial substrate suitable for HPL (high pressure laminate) bonding.

1B) CLEAN: All surfaces of all materials including substrate, IntenteK™ Laminate sheet and backing sheet to remove any debris which would cause telegraphing. Do not remove the 5"x5" masking from charging zones on the back of the IntenteK™ Laminate face sheet. If 5"x5" masking has been removed accidentally, add masking tape, that does not have too much tack, over contact pads before proceeding.



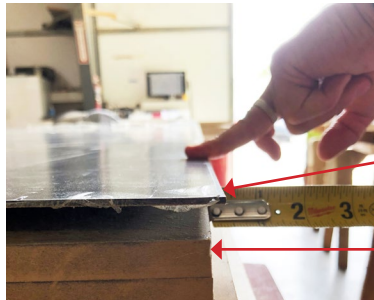
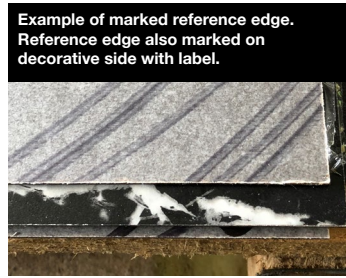
1C) ADHESIVE: Apply adhesive to the substrate per adhesive manufacturer instructions for bonding HPL (high pressure laminate). It is advised that a test is done to assure bond.

1D) INTENTEK™ LAMINATE FACE SHEET INDEXING: Using the marked reference edge, position face sheet with a consistent ¼" (0.25") overhang on the substrate length and consistent ¼" (0.25") overhang on the substrate width. **NOTE:** Face sheet must extend beyond the substrate and backer edge to maintain the reference edge for the CNC operation.

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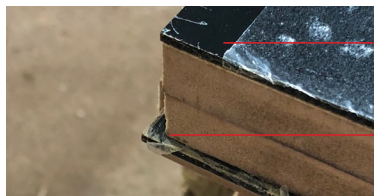


Decorative sheet of IntenTek™ laminate is overhanging the substrate.

Substrate

1E) INTENTEK™ LAMINATE BACKER SHEET INDEXING:

Position backer sheet aligned to the substrate board edge. Backer must be aligned to the substrate edge and not overhang.



1F) PROCESS OF BONDING: A heat tunnel with heated or cold nip rollers can be used or a conventional hot or cold press. Regardless of the process, the face sheet indexing above must be maintained as specified.

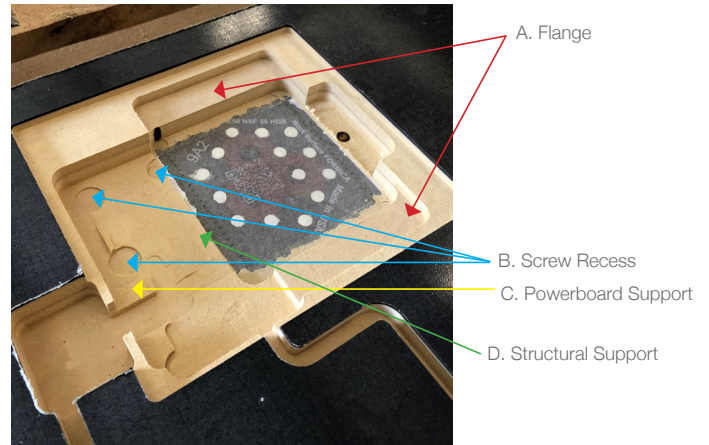
2. PRE-PRODUCTION: ENGINEERING & CNC OPERATIONS

2A) ENGINEERING: Load cut file for the job into the CNC for cutting. Set machine to remove entire cavity for checking depth measurement.

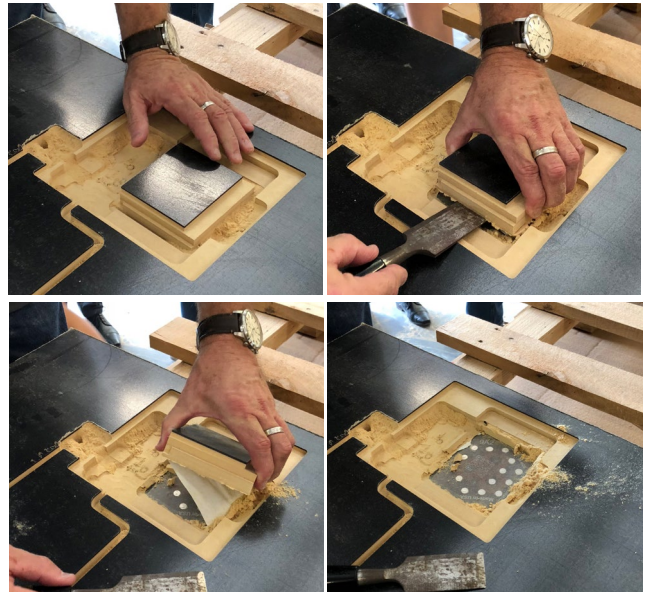
2B) TEST MACHINING: It is recommended that a test piece of core is run, measured and dry fitted to ensure proper machining and fit before processing.

2C) IMPORTANT PARTS OF CAVITY:

- Flange for heat sink (measured from top of flange to bottom of cavity where contract pads are, which is 13.31mm or .524 inch)
- Blower screws recess area
- Power board support flange
- Structural support of area with exception of area cut out for contact pads



2D) CAVITY PERIMETER CUT:



a. Formica Group requires using a perimeter cut for the contact pad area. MDF/Particleboard/Plywood will be removed after CNC cut is complete. For this perimeter cut, we recommend to use 1/4" or 3/8" bit.

2E) BOTTOM/UP CNC PROGRAMMING: Formica Group understands that CNC programs differ. Formica Group will supply CAD files that will have bottom/up measurements of the cavity. Our recommendation is to cut cavity using a bottom/up measurement from the vacuum table. By doing this, CNC machine will reference and cut to the deepest measurement of cavity, which is 2.3mm (which will cut to the very back of the IntenTek™ decorative face sheet). If CNC programming requires top/down measurements, fabricator will need to adjust CNC Cut file.

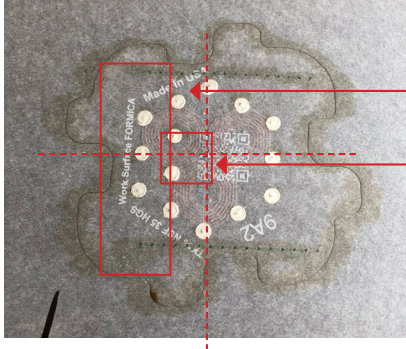
2F) OPTIONAL CONFIRMATION OF MEASUREMENTS: Prior to fabrication, should fabricator want to confirm that laminate measurements match the CNC Cut file, do not measure from the decorative side where the charging icon is placed. Center point measurements can be made from backside of laminate as shown below.



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CAUTION: When measuring, do not use any tools that could damage the contact pad.



This end is where blower outlet will be oriented
 This is where the center point is measured

NOTE: The end with the double layer of contact pads is where the electronics blower outlet will be.

3. PRODUCTION: CNC OPERATIONS (TYPICAL STEPS)

3A) RESET CNC: Reset CNC program for cutting to do a perimeter cut of the deepest part of cavity (the part where the contact pads are exposed). We do not recommend removal of material within this area until after CNC operation is complete.

3B) POSITION BOARD: Position the decorative laminate side of panel face down on the CNC table.

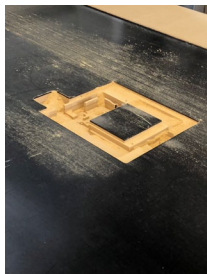
3C) ALIGN BOARD: Position the decorative laminate side of Align reference edge of panel decorative laminate sheet to the CNC alignment pins on the vacuum table prior to initiating the cutting operation.



3D) WARNING: Machining must not contact the charging zone area contact pads which will impact/defeat the performance of the end product.

3E) RUN CNC: Run CNC program to make all cuts into the substrate, which may include:

- a. the electronics cavity or cavities into the substrate

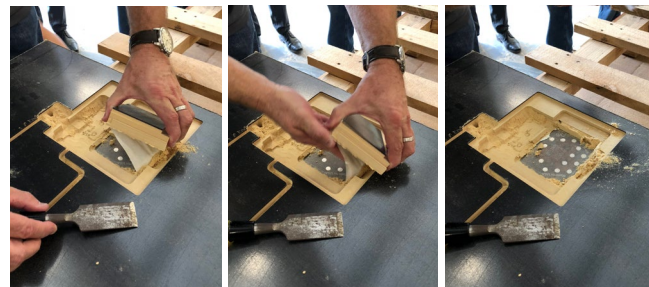
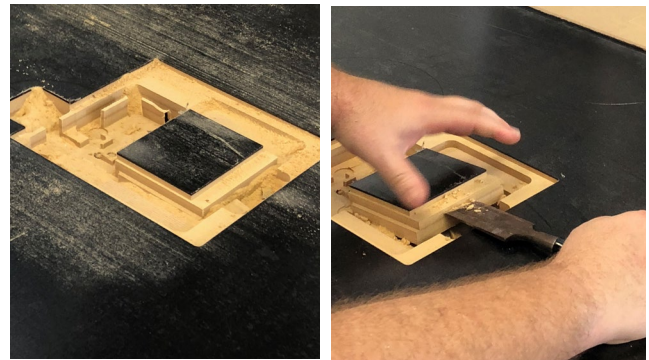


- b. wire or adapter tracks



- c. attachment holes for table legs

3F) REMOVE CAVITY PIECE: When job is complete, remove cavity substrate piece (that was created with the perimeter cut) from the cavity to reveal the contact pads. At this time, the 5"x5" masking should also be removed.



3G) CONFIRM CAVITY MEASUREMENT: Check to confirm the distance from the flange where the heat sink will eventually be screwed in to the bottom of the cavity where the contact pads are. This measurement should be 13.31 mm. (.524 inch)



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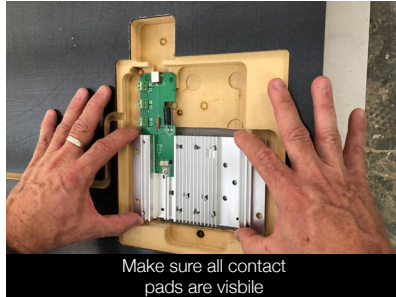


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3H) CONFIRM FIT: Test fit of heat sink to the cavity by placing into the cavity. Heat sink should not rock side-to-side, but sit evenly in the cavity. Check to confirm the silver contact pads are visible through the holes in the heat sink.



Heat shink should not rock from side-to-side



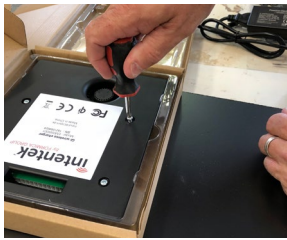
Make sure all contact pads are visible

4. PRODUCTION

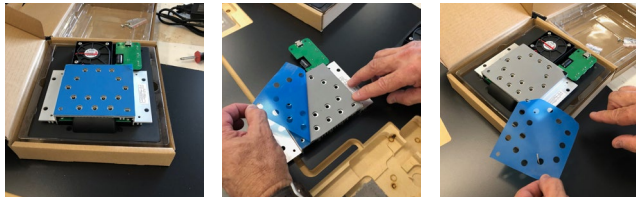
4A) COMPLETE EDGING AS NEEDED: Table or counter should be edged as specified.

5. ELECTRONICS INSTALLATION

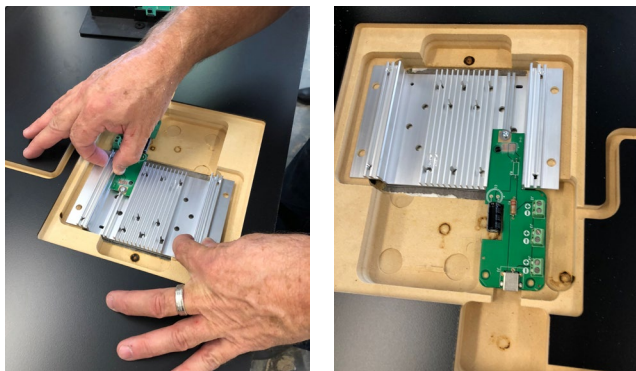
5A) UNSCREW MODULE: Unscrew electronic module from heat sink cover. Retain screws for final assembly.



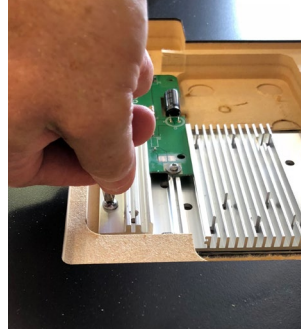
5B) PEEL BLUE COAT: Peel off blue peel coat from the gap pad. Take care not to pull off the gray gap pad.



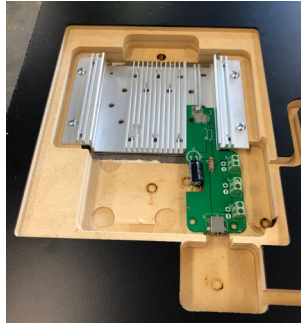
5C) ALIGN HEAT SINK: Align the heat sink in the cavity by visually centering the heat sink holes on all of the silver contact pads.



5D) PLACE 1ST SCREW IN HEAT SINK: Press the heat sink down and place initial screw - check to confirm all contact pads are still visible through the holes in the heat sink.



5E) SCREW IN HEAT SINK: Place the remaining three screws into heat sink and tighten. **CAUTION:** Do not overtighten screws in the substrate.



5F) CONNECT MULTIPLE CHARGING ZONES AS NEEDED: If design calls for multiple electronics zones to be connected, follow instructions now that are found in the box on the next page. If you are only installing one charge zone, skip to step 5G.

Wiring should be done before electronics module housing is attached in next step.



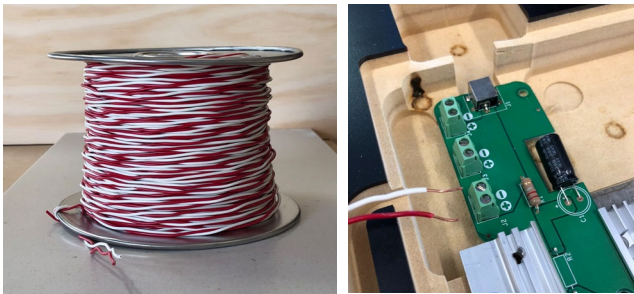
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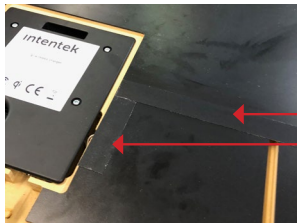
CONNECTING MULTIPLE ELECTRONICS MODULES TO A SINGLE AC ADAPTER

REMINDERS:

- Up to four electronics modules can be connected with a single power source. Use this step if the design requires multiple electronics modules to be connected.
- 20 AWG corded wire is the minimum gauge required.
- When connecting multiple electronics units together, it is critical that instructions are followed. The correct polarity is important, or the electronics will not operate.
- Always use two cord colors. Formica Group recommends using a red wire for positive and a white wire for negative.



- Always cover wire when top is finished.

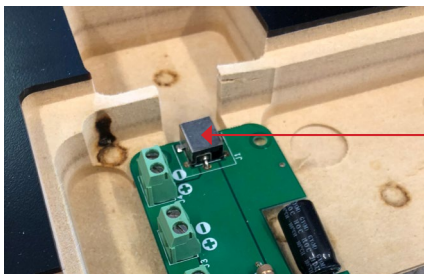


Sheathing coverage for wire channels

- Never work with electrical wiring while powered.

INSTRUCTIONS FOR CONNECTING MULTIPLE CHARGING ZONES TOGETHER

- Confirm electronics are not plugged into a power source.
- Locate the parent electronics module (the parent is the one that will be plugged into the AC Adapter).

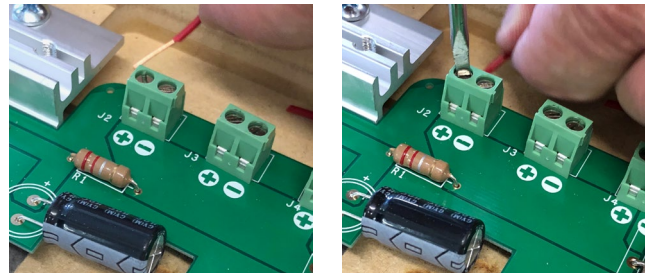


AC Adapter goes here.

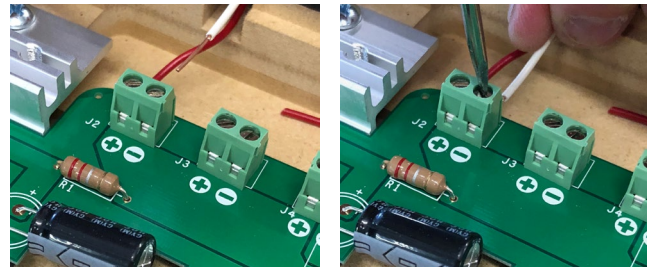
- Using a wire stripper, strip 3/16" off one end of the red and white wires to expose the wire underneath.



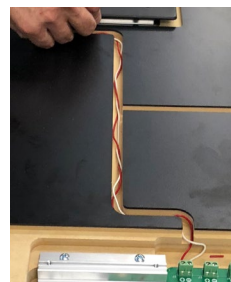
- Using a small slotted screwdriver, tighten the exposed wire of the positive (red) wire into the positive port in the parent's power distribution board.



- Using a small slotted screwdriver, tighten the exposed wire of the negative (white) wire into the negative port in the parent's power distribution board.



- Measure the length of wire needed to reach the next electronics module and cut. Strip this end to expose 3/16" of both red and white cords.



- Using a small slotted screwdriver, tighten the exposed wire of the positive (red) wire into the positive port in the second power distribution board.

- Using a small slotted screwdriver, tighten the exposed wire of the negative (white) wire into the negative port in the second power distribution board.

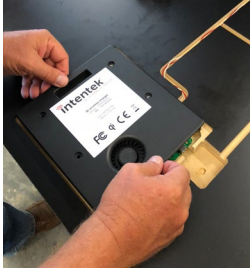
- Repeat until all of electronics modules have been connected.
- Check to be certain all wires are tight in terminal strips.

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5. ELECTRONICS INSTALLATION (CONTINUED)

5G) ALIGN ELECTRONICS HOUSING: Visually align the screw holes in the electronics housing over the holes in the heat sink and use as a guide when dropping in the housing. Be careful not to stress pogo pins.



3" screws can be used to help with alignment. Thread 3" alignment screws into housing system in opposite corners to use as guides to drop housing system in. This will help protect pogo pins. Remove alignment screws before proceeding to next step.



5H) ATTACH ELECTRONICS HOUSING: Press and attach electronics module housing to heat sink.



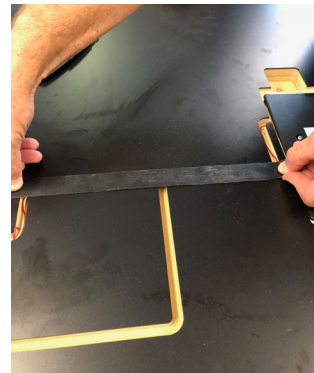
5I) SCREW IN HOUSING: Use four screws to secure housing to heat sink.



5J) CONNECT ADAPTER: Connect AC Adapter into the master module.



5K) COVER WIRES AS NEEDED: Place protective sheathing cover over exposed wires as needed.



5L) PLUG IN: Plug AC Adapter into a compatible mains outlet



5M) CONFIRM CORRECT INSTALLATION: Complete quality check (see below)

6. FINISH ASSEMBLY

6A) FINISH FURNITURE BASE: Install support leg(s) per the component design

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QUALITY CHECK - CONFIRMATION OF SUCCESSFUL INSTALLATION

Trained Formica® Fabricator Partners will receive a Test Receiver to confirm that the electronics are working upon completion of fabrication. Fabricator Partners should refer to test procedure in Test Receiver manual.

If an electronics module is ever re-installed, it must be recalibrated for Foreign Object Detection. Call 1-800-FORMICA™ or reference Test Receiver Manual for this procedure.

TROUBLESHOOTING

If the system does not appear to be charging, power down by unplugging, wait five seconds, and plug back in. If you do not hear a beep when reconnecting, check all plug connections to confirm complete connections.

If this does not work, call 1-800-FORMICA™.

ELECTRONICS MODULE UNIT REPLACEMENT

Call 1-800-FORMICA™.

PHYSICAL PROPERTIES OF INTENTEK™ LAMINATE BACKERS

PRODUCT SPECIFICATIONS	INTENTEK™ BACKER
Grade	C4
Thickness	2.3 mm (0.091in)
Weight	0.68 lb/ft ²
Finish	Matte-58
Sizes	4x8', 4x10'



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PHYSICAL PROPERTIES OF INTENTEK™ LAMINATE BACKERS

PHYSICAL PROPERTIES	TEST	Intentek™ Laminate
	NEMA LD3 2005	
Light Resistance	3.3	No effect
Cleanability	3.4	pass 9
Stain Resistance	3.4	No effect
Reagents 1-10		No effect
Reagents 11-15		No effect
Boiling Water Resistance	3.5	No effect
High Temperature Resistance	3.6	No effect
Linear Scratch	3.7	,200g
Ball Impact Resistance	3.8	
- in		>98
- mm		>2500
Dart Impact	3.9	
- in		>43
- mm		>1100
Radiant Heat Resistance	3.10	>292 sec
Coil Method		
Dimensional Change	3.11	
Machine Direction - %		0.40%
Cross Direction - %		0.54%
Room Temp. Dimensional Stability	3.12	
Machine Direction - %		0.07%
Cross Direction - %		0.21%
Wear Resistance - cycles	3.13	700

PHYSICAL PROPERTIES	TEST	Intentek™ Laminate
Water Absorption	ASTM D570	3.93%
Thermal Expansion	ASTM D696	2.0 x 10 ⁻⁵ /°C
Barcol Hardness	ASTM D2583	70

FIRE RESISTANT PROPERTIES	TEST	Intentek™ Laminate	
Steiner Tunnel Test	Class	Flame	Smoke
	ASTM E84 B	45	75
	ULC 102 B	40	60

MECAHANICAL PROPERTIES	ASTM TEST	Intentek™ Laminate
Flexural Strength	D790	
Ultimate	Machine Direction	224 Mpa
	Cross Direction	221 Mpa
Modulus	Machine Direction	16,472 Mpa
	Cross Direction	10,302 Mpa

CODES & CERTIFICATIONS	
Greenguard Gold	Approved
NSF	Approved

PRODUCT SPECIFICATIONS	INTENTEK™ LAMINATE
Thickness	2.3 mm (0.091in)
Weight	0.68 lb/ft ²
Finish	Matte-58
Sizes	4x8', 4x10'



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ELECTRONIC MODULE AND AC ADAPTER SPECIFICATIONS AND COMPLIANCE

Item	Description	Parameter or Test Procedure
Features	Active Charge Area	56 mm diameter circle (24.6 cm ²)
	Power Delivery	5 W (Base Power Profile)
	Number of coils	7
Electronics Module Compliance	RoHS Compliant	Yes
	Qi v1.2.4 Certification	Qi ID 6228
	Qi v1.2.4 Interoperability	Qi ID 6228
	FCC part 18 (US)	sDoC test report for USA
	RF Exposure (US)	Complies with RF exposure requirements per: KDB 680106 D01 RF Exposure Wireless Charging App v03 47 CFR Part 2 section 2.1091
	RSS-216 Issue 2 (Canada)	test report for Canada
	ETL 2738	Standard for Induction Power Transmitters and Receivers
	EU-Type examination certificate for RED (EU) This includes CE marking	Radio Equipment Directive 2104/53/EU
Power Supply	Power Supply Input Voltage Range	100 – 240 VAC rms
	Power Supply Input Current (max)	1.5 A rms
	Input Frequency Range	50 Hz to 60 Hz
	Power Supply Output Voltage (nominal)	12 VDC +/- 5%
	Power Supply Output Current (max)	5.0 A
	Input Ripple Voltage (peak to peak)	200 mV p-p
	Efficiency	DoE: level VI, >= 88%
	CB scheme	IEC60950-1:2005 (Second Edition)+Am 1:2009+Am 2:2013
	CTUVus	UL60590-1:2007 R12.11 CAN/CSA-C22.2 No. 60950-1-07+A1:2011
	UL (USA)	UL 60950-1, 2nd Edition, 2014-10-14
	CUL (Canada)	CAN/CSA C22.2 No. 60950-1-07, 2 nd Edition, 2014-10
	TUV GS	EN60950-1:2006+A11+A1+A12+A2 EN60065:2014
	CCC (China)	GB4943.1-2011;GB9254-2000B;GB17625.1-2012 EN 55022:2010 Class B EN55024:2010
	CE (EU)	EN61000-3-2:2006+A1:2009+A2:2009 EN6100-3-3:2008
	FCC (US)	FCC Part 15, -Subpart B: Oct. 1,2013 ANSI C63.4:2009
	VCCI (Japan)	VCCI V-3/2013.04 VCCI V-4/2012.4
	C-TICK (Australia)	AS/NZS CISPR 22:2009+A1:2010
Physical Information	Mechanical Assembly Max. Height	25mm (to top of SLCs)
	Area (x, y dimensions)	178mm x 200mm
	Weight (Electronic assembly only)	212 g
	Weight (Electronic assembly + heat sink)	493g
	Maximum Charging Surface Temperature	< 12°C above ambient
	Ambient Operating Temperature	10 °C - 40 °C
	Humidity	0% - 90% (Non-condensing)

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LIFETIME EXPECTANCY TESTING

The electronic module has undergone accelerated life testing to simulate seven years of continuous use. Lifetime Expectancy is not equivalent to warranty. See Warranty Section within this guide for additional details.

FCC COMPLIANCE STATEMENT

This device complies with Part 18 of the FCC Rules Warning:

Changes or modifications to this unit not expressly approved by the party responsible for the compliance could void the user's authority to operate the equipment. Note: This equipment has been tested and found to comply with the limits for ISM equipment, pursuant to Part 18 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential/commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

- The operating Frequency band(s): 111.920kHz
- "Hereby, Formica Group declares that the radio equipment type Wireless Power Charge is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following URL:
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0053>
- No restriction for EU countries.
- This equipment complies with radiation exposure limit set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

UL STANDARDS

The AC adapter has been TUV Rheinland Listed for testing to the UL 60950-1. The TUV Listed mark will be on the AC adapter. The Electronics Module has been ETL Listed for testing to the UL2738. An ETL Listed mark will be found on the Electronics Module.

LEGAL TERMS AND CONDITIONS OF USE

INTELLECTUAL PROPERTY AND CONFIDENTIALITY

This IntenTek™ Wireless Charging Surfaces Guide contains proprietary and confidential intellectual property owned by Formica Group. The information in this Guide is provided solely to assist in using the IntenTek™ System and may not be disclosed or used for any other purpose.

WARRANTY

INTENTEK™ WIRELESS CHARGING SURFACES LIMITED WARRANTY

1. Limited Warranty. The IntenTek™ Wireless Charging Surface consists of IntenTek™ laminate, laminate backer, electronics module and power cord. FORMICA warrants to the Buyer to which FORMICA has sold its IntenTek™ Wireless Charging Surface (the "Buyer"), that for a period of (1) one year from the date of first sale, this product will be of merchantable quality, reasonably free of defects in materials and workmanship, manufactured in accordance with applicable Qi standards, and that when properly stored, handled, fabricated and installed, will conform, within accepted tolerance, to the specifications stated in the Material Properties Datasheet published on the date of delivery at www.Formica.com. Only the limited warranty published at www.Formica.com as of the date of initial shipment of the IntenTek™ Wireless Charging Surface to the Buyer shall be applicable and effective.

2. Remedy. In the event that an IntenTek™ Wireless Charging Surface fails to conform to this limited warranty, FORMICA shall, at its sole option and discretion, either repair the defective IntenTek™ Wireless Charging Surface or furnish replacement IntenTek™ Wireless Charging Surface. The period of limited warranty applicable to a repaired or replaced IntenTek™ Wireless Charging Surface shall be the remainder of the unexpired period of this limited warranty. If FORMICA chooses to repair the defective IntenTek™ Wireless Charging Surface, FORMICA or its agent must be allowed to make the repair. If FORMICA chooses to supply new IntenTek™ Wireless Charging Surface, FORMICA is only obliged to supply IntenTek™ Wireless Charging Surface that matches the color of the product originally supplied as closely as possible and is not obliged to supply an identical color.

3. Limited Warranty Conditions. This limited warranty shall be null and void and/or shall be deemed revoked upon any failure to fully adhere to any of the following conditions:

1. the Buyer has paid the price of the IntenTek™ Wireless Charging Surface in full and has complied with all its (payment) obligations to FORMICA;
2. the IntenTek™ Wireless Charging Surface shall have been installed to meet all applicable codes and standards, laws and regulations;
3. the storage, transport, processing, application, fabrication, installation and/or maintenance instructions for

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the IntenTek™ Wireless Charging Surface, specified at www.Formica.com when the IntenTek™ Wireless Charging Surface were delivered by FORMICA to the Buyer, have been fully adhered to;

4. upon delivery of the IntenTek™ Wireless Charging Surface to the Buyer, the Buyer shall have promptly inspected the IntenTek™ Wireless Charging Surface to determine the presence of any patent defects (meaning any defects that are apparent, or should have been apparent, to the Buyer by a visual inspection), and the Buyer shall have notified FORMICA of any such patent defects in writing within thirty (30) days of the date of delivery of the IntenTek™ Wireless Charging Surface to the Buyer, or within ten (10) days of finished assembly inspection with Test Receiver provided such inspection occurs within a year and the IntenTek™ Wireless Charging Surface has been stored according to the guidelines specified at www.Formica.com;

5. the IntenTek™ Wireless Charging Surface shall not have been modified or altered following delivery of the IntenTek™ Wireless Charging Surface to the Buyer except as necessary for proper installation meeting all applicable codes and standards;

6. for purposes of making a claim under this limited warranty for anything other than a patent defect described above, the Buyer shall have notified FORMICA in writing of any alleged defect within thirty (30) days of the date that the Buyer discovered or should have reasonably discovered such defect, and submitted the claim to FORMICA accompanied by this limited warranty, and with evidence that the IntenTek™ Wireless Charging Surface were purchased by the Buyer directly from FORMICA; and

7. upon receipt of a claim pursuant to this limited warranty, FORMICA shall have been afforded reasonable opportunity to inspect the allegedly defective IntenTek™ Wireless Charging Surface and the Buyer shall have provided FORMICA with any and all information and documentation in the Buyer's possession or control regarding the IntenTek™ Wireless Charging Surface, including information concerning installation and maintenance.

4. Limitations of Damages; Exclusive Remedy. REPAIR OR REPLACEMENT OF DEFECTIVE INTENTEK™ WIRELESS CHARGING SURFACE SHALL BE THE SOLE AND EXCLUSIVE REMEDY HEREUNDER. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, FORMICA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR BREACH OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED. FORMICA is not liable for indirect losses, losses incurred by third parties, or losses to the extent covered by any insurance taken out by the Buyer. Removal and reinstallation of IntenTek™ Wireless Charging Surface repaired or replaced under this limited warranty shall be at the Buyer's sole cost and expense which shall include the following

costs: the cost of dismantling a supporting structure, the costs of repairing a supporting structure, and other similar costs. Under no circumstance shall FORMICA'S liability under this limited warranty exceed: (1) the sum that is equal to the corresponding price of the IntenTek™ Wireless Charging Surface in question (excluding sales tax), noted on the purchase invoice and paid by the Buyer; or (2) the sum of USD 10,000 dollars. All rights and claims that the Buyer has under this limited warranty expire one (1) year from the date on which the IntenTek™ Wireless Charging Surface is delivered to the Buyer.

5. Exclusions. This limited warranty does not cover any defect in any materials or components other than the IntenTek™ Wireless Charging Surface, or damages attributed to causes unrelated to the IntenTek™ Wireless Charging Surface manufacturing process, including but not limited to incorrect, faulty or improper handling and/or installation, damages caused by or resulting from the combination or assembly of any such other materials or components with the IntenTek™ Wireless Charging Surface, outdoor use, exposure to corrosive elements in the atmosphere, mildew, the use of harmful or inappropriate cleaning compounds, water damage, foreign objects, vandalism, malicious mischief, impact, unreasonable use, misuse, physical abuse, accidental damage, act of war, terrorism, civil disobedience or any "force majeure" whatsoever.

6. Disclaimer. EXCEPT AS EXPRESSLY PROVIDED HEREIN, THE INTENTEK™ WIRELESS CHARGING SURFACE PROVIDED IS SOLD "AS IS," AND FORMICA EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR TRADE USAGE. THIS LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY PROVIDED BY FORMICA, and supersedes all other warranties, including any based upon oral or written representations. In no event shall FORMICA be liable for any claims, costs or damages arising out of or relating to Buyer's lack of compliance with any applicable code(s) or industry standard(s). All other claims made by the Buyer are excluded. Any transfer or assignment of rights by the Buyer under this limited warranty shall be void.

7. Legal Action. Any legal action, suit or proceeding against FORMICA arising out of or relating to this limited warranty shall be governed by and be construed in accordance with the law and exclusive jurisdiction of the courts of the State of Ohio, USA. Any such action will be barred if not commenced within one (1) year of the date the Buyer discovered or should have reasonably discovered that an IntenTek™ Wireless Charging Surface IntenTek™ Wireless Charging Surface fails to conform to this limited warranty.

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OTHER INFORMATION

MANUFACTURER:

Formica Corporation
10155 Reading Road
Cincinnati, Ohio 45241-5279

ELECTRONICS DISPOSAL

Waste electrical products should not be burned or disposed of with household waste. Donating and recycling electronic devices may conserve natural resources.

Information can be found on EPA website:

<https://www.epa.gov/recycle/electronics-donation-and-recycling>.

You may also choose to dispose of e-waste by contacting your local landfill and requesting a designated e-waste drop off location.

TECHNICAL SERVICES

Formica Corporation maintains a sales and technical services staff in Cincinnati, Ohio. For technical assistance, contact your sales representative; write the company directly at Formica Corporation Technical Services Department, 10155 Reading Road, Cincinnati, OH, 45241; call (513) 786-3578 or 1-800-FORMICA™; or fax (513) 786-3195. In Canada, call 1-800-363-1405. In Mexico, call (55) 5634-8620.

TRADEMARKS

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