



RhinoBond®

INDUCTION HAND WELDER

Non-penetrating fastening system
for commercial roofing



OWNER'S MANUAL



153 BOWLES ROAD, AGAWAM, MA 01001 USA
800-633-3800 413-789-0252 RHINOBOND.COM

IMPORTANT!
Save this manual
and read it in full
before use.

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RHINO BOND RESOURCES ON LINE!

We have a dedicated online resource site where all important RhinoBond information is kept, including manuals, tips, videos, best practices, the Rhino calculator and much more!

RhinoBondResources.com

INTRODUCING THE RHINO BOND® HAND WELDER

Congratulations! You have in your hands one of the industry's most advanced fastening systems for installing thermoplastic membrane roofing and "approved" clean EPDM membrane*. The RhinoBond Induction Hand Welder is a portable, easy-to-use tool, and designed for use in tight spaces, under raised rooftop equipment and on high slope or vertical surfaces such as parapet walls**.

The RhinoBond system uses Sinch technology to create a strong bond between the roof membrane and fastening plates.

While RhinoBond is a safe and tested tool, we caution you to be sure that every member of your crew has a thorough understanding of the RhinoBond System before use. Read, understand and follow all instructions.

Congratulations on your new purchase. We look forward to your feedback. Please send us your comments and suggestions at any time.

OMG Roofing Products | info@olyfast.com
800-633-3800 | +1 413-789-0252 | www.RhinoBond.com

*Clean EPDM Membrane -- currently there are a limited number of clean EPDM options available only in Europe and approved for use with RhinoBond. Always verify membrane suitability and approvals with membrane supplier. RhinoBond is not suitable for use with other EPDM membrane.

**Prescriptive fastening patterns for vertical surfaces, including parapet walls, are always specified by the roof system manufacturer.

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RhinoBond® and **SINCH Technology®** are registered trademarks of OMG, Inc., a leading provider of innovative fastening solutions and products for the construction industry.

PATENT NOTICE:

U.S. Patent Nos. 6,710,314 and 6,849,837.

U.S. Patent Pending.

Canadian Patent No. 2,458,353.

Canadian Patent Pending.

Contact OMG Roofing Products or your roofing membrane manufacturer for the most current list of approvals.



THE RHINO BOND HAND WELDER WARRANTY

The RhinoBond Hand Welder is guaranteed for 25,000 cycles of operation, or one year from date of purchase, whichever comes first.

During this period OMG, Inc., at its option, will repair or replace any tool for the roofing contractor who originally purchased the tool. This will be done free of charge, provided the tool is determined defective in materials or workmanship upon examination by an Authorized RhinoBond System Service Technician.

This Warranty will be honored only if:

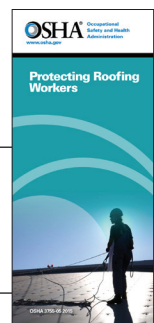
- A. No evidence of abuse, misuse or failure to follow safety or operating instructions, or improper maintenance or modification of the tool, is present. Read Owner's Manual for safe use and maintenance instructions.
- B. If replacement is necessary, the original purchaser should return the tool, transportation prepaid, to the nearest Authorized RhinoBond System Service Technician with a copy of the original purchase receipt or other positive proof of purchase.
- C. Only genuine RhinoBond Tools, Fasteners and Plates are used in the application.

For RhinoBond Tool Service, please call: 800-633-3800

International: +1 413-789-0252

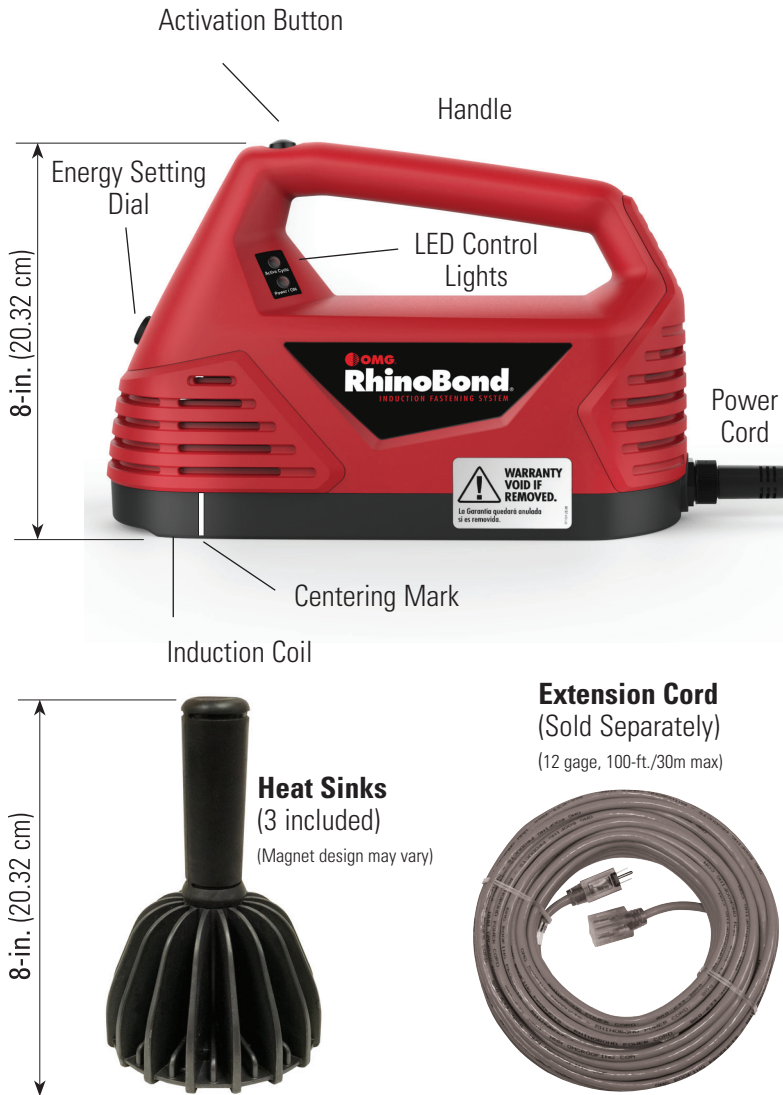
ROOFTOP SAFETY

In addition to the safety instructions in this manual, OMG Roofing Products recommends that all roof top workers follow the safety guidelines outlined in the OSHA booklet called "Protecting Roofing Workers" available at www.osha.gov/Publications/OSHA3755.pdf and EU-OSHA "Directive 92/57/EEC - Temporary or mobile construction sites," if applicable.



THE RHINOBOND HAND WELDER

READ & SAVE ALL INSTRUCTIONS



WARNING

The RhinoBond System produces heat that can seriously injure people and damage metal objects. Please be sure that you and your crew members read and understand all instructions in this manual before attempting to use the RhinoBond System. Failure to follow all instructions could result in **property damage, serious personal injury, electric shock or death.**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

DO NOT USE THIS TOOL if you have (or anyone near you has) a **pacemaker, surgical implant, prosthesis or other medical device.** The RhinoBond tool may interfere with proper medical device operation.

DO NOT activate tool over metal objects in/on the floor.

DO NOT use the cord to carry the tool.

UNPLUG THE CORD before attempting to inspect or clean the tool, or you risk electric shock.

Make sure power/extension cords **do not create a trip hazard.**



DO NOT activate tool over the power cord.



KEEP CORD AWAY FROM heat, liquids, sharp edges and moving parts.



STAY ALERT. Do not use this tool when tired or under the influence of drugs, alcohol or medication that can alter your awareness.



DO NOT hold any objects containing metal in the direct proximity of the inductor during use, including watches, jewelry, keys, mobile phones, etc.



IF CORD IS DAMAGED, immediately discontinue using the tool and contact OMG Roofing Products for repair.
800-633-3800 (+1 413-789-0252)

POWER REQUIREMENTS CHART

REGION	USA / CANADA	UK / IRELAND	NETHERLANDS AND REST OF EUROPE	CHINA
POWER REQUIRMENTS	110-120V / 20A / 50-60Hz	110-220V / 16A / 50-60Hz	220-230V / 10A / 50-60Hz	220V / 50Hz
EXTENSION CORD	12 gauge (min.), 100-ft. (max.)	110V, 2.5mm X 30m	16A (230V 3x15), 30m	10A, 30m
PORTABLE GENERATOR POWER SOURCE	5,000W min. with 20A GFCI Circuit	2.5 KVA min. with 16Amp (110V) protected circuit	2.5 KVA min. with 10Amp (230V) protected circuit	Honda EU20i 1.6 KVA with 8 Amp (230V) protected circuit
RHINOBOND TOOLS PER GENERATOR *	2	1	1	1

See page 7 for country specific plug adapters.

OPERATING INSTRUCTIONS

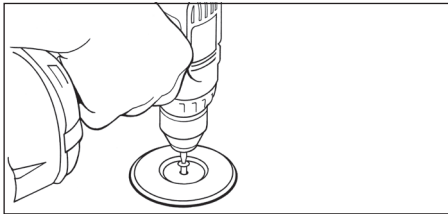
The RhinoBond Hand Welder is designed for use in dry weather conditions with relative humidity between 30 - 90 %.

STEP 1

INSTALL THE PLATES

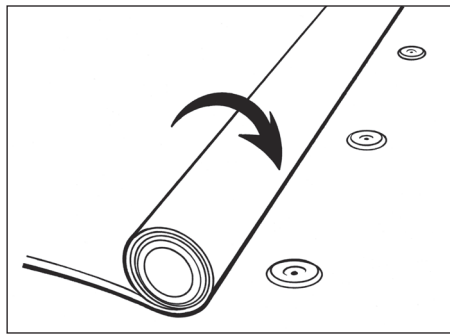
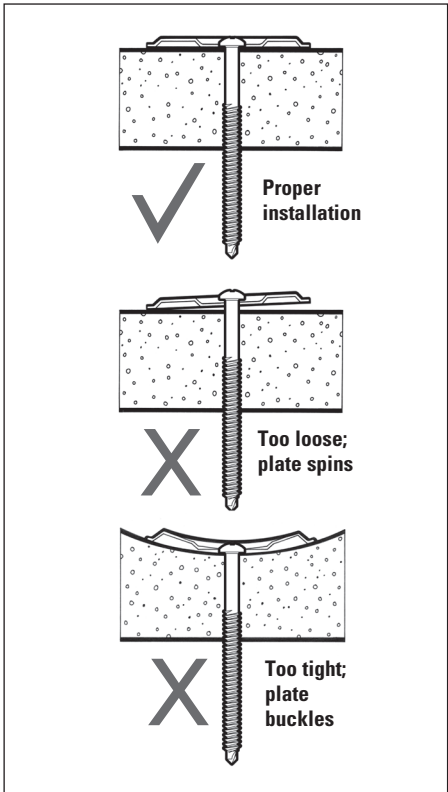
Always follow roof system manufacturer's specifications and fastening patterns, or in Europe, distributor wind load calculations and fastening patterns.

When using the RhinoBond system, it is important to install plates in a straight line. This will improve system performance and help you more easily identify plates under the membrane.



Secure plates using appropriate fasteners.

TIP: DO NOT OVERDRIVE PLATES.
Overdriving may result in a poor quality bond.



Lay membrane over the plates.



ATTENTION:

RhinoBond Plates must be protected from prolonged UV (ultra violet) sun exposure.

Keep RhinoBond buckets covered when not retrieving plates. Installed RhinoBond plates must be covered with membrane by the end of each workday.

STEP 2

INTERNATIONAL POWER

All RhinoBond Hand Tools are provided with a plug for U.S. power sources. However, OMG sells plugs for most international power sources. Please contact the OMG representative or call +1 413-789-0252 for information or to order. (See page 7)

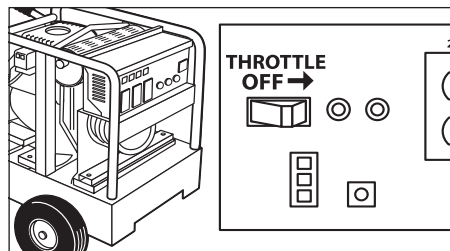
START UP THE RHINO BOND TOOL



WARNING

Failure to follow these instructions may cause damage to your RhinoBond tool.

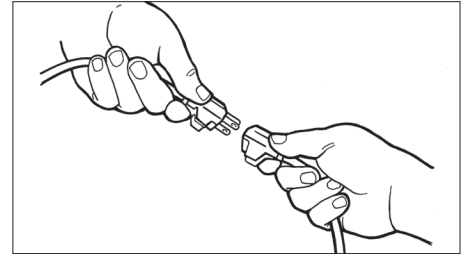
NEVER start generator with tool plugged in.
ALWAYS start generator first, then plug in tool.
WHEN NOT IN USE, unplug the tool.



Start portable generator and allow it to warm up for at least two minutes. **Auto-Throttle, Auto-Idle and/or Eco-Idle switches must be in OFF position.**

DEDICATED POWER

No other tools should be plugged into the power source while RhinoBond tools are in operation.



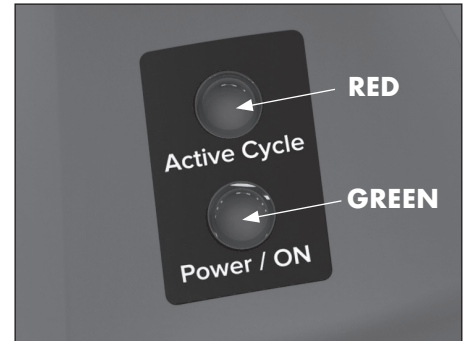
Plug the RhinoBond tool into a stable energy source. Refer to Power Requirements Chart on page 3.

*There is a warning label on the RhinoBond tool to remind operators of the importance of Safe Start-Up & Shut Down procedures.

SAFE SHUT-DOWN

Simply unplug the RhinoBond tool to shut down. To resume work, **confirm** that generator is running at **full speed** and delivering stable power **before** plugging in the RhinoBond tool.

THE TOOL IS ON



Once plugged in the tool is on, and the green Power/ON light will appear. During welding, the red Active Cycle light will appear.

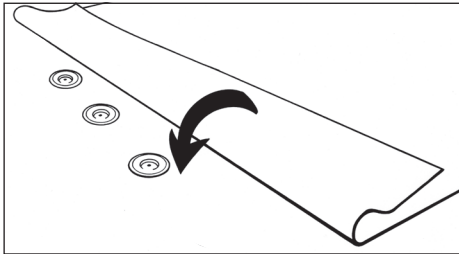
STEP 3

CALIBRATE THE TOOL

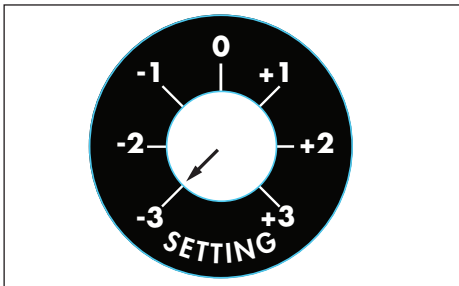
Calibrate the tool each day before starting work. Adjust the RhinoBond Hand Welder for maximum bond strength based on the ambient temperature (from 0°F/-18°C to 120°F/49°C) and membrane thickness. Adjust the energy level to produce an optimal bond. Start calibration at -3 and test samples at 0 and +3

IMPORTANT TIP
Whenever the ambient temperature changes up or down by 15°F or more (8°C or more), recalibrate the RhinoBond tool.

Use the following calibration process to adjust the energy setting **for each tool** to the appropriate level for the conditions on the job.



Place 3 plates on a sample of your insulation, 10 inches (250mm) apart. Lay a sample of your membrane over the plates. Be sure membrane is clean and dry.

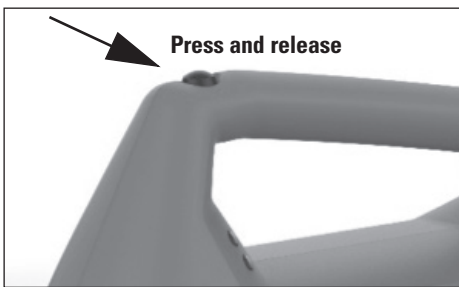


Set the Energy Setting Dial to the (-3) position.



Align tool over plate and move forward until you feel the plate engage the recessed bottom of the tool.

The bottom of the tool must remain flat against the membrane. Use caution not to push the tool too far forward, which can result in a poor quality weld due to the bottom of the tool lifting off of the membrane.



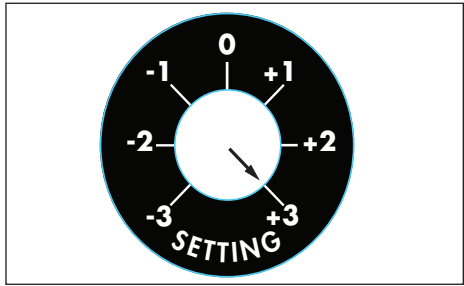
To activate, press and release the weld button on the top of the tool. Note: the handle is designed to vibrate during the welding cycle.

WARNING

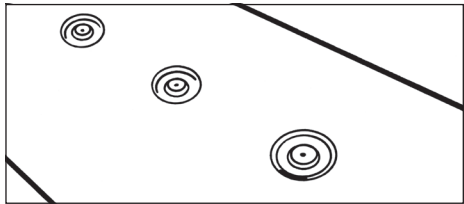
Hold hand welder tool flat against the membrane and firmly in place. **DO NOT** move tool until weld cycle is complete and the handle stops vibrating.



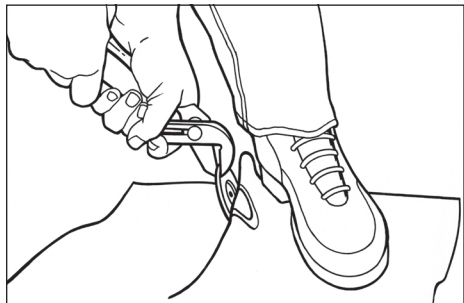
Once the weld cycle is complete, the handle will stop vibrating. Remove the RhinoBond Hand Welder and immediately set a magnetic heat sink directly onto the center of the welded plate.



Next, increase the energy setting to (0) and perform a weld on the next plate and cover with magnetic heat sink. Finally, increase the energy setting to (+3) and repeat process on the last plate.



After the plates have cooled, **remove the magnetic heat sinks** and turn membrane over to reveal the welded plates.



Use pliers to peel each plate off of the membrane. See Bond Results on page 6.

CALIBRATION TIPS

If you do not get a 100% weld during calibration, check the power at the female end of the cord and determine what else is running on the same circuit.

Power output may be diminished if:

- The cord is too long.
- The power source is overloaded.

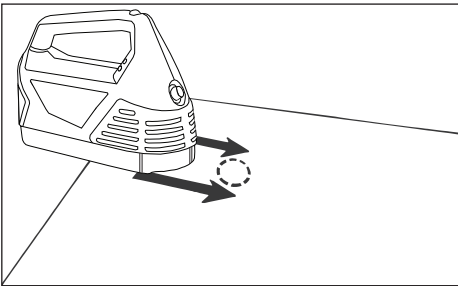
TIP

Cord length must not exceed 100-ft. (30 m)

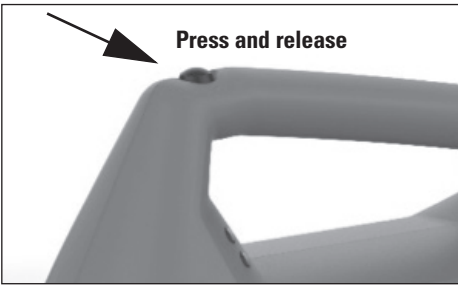
STEP 4

BOND THE MEMBRANE

Set tool to Energy Setting that provided a 100% bond. Several settings may yield a 100% bond. If this happens, select the energy level setting in the middle.



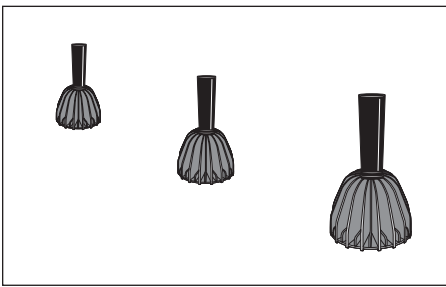
Center the calibrated Handheld tool over the first plate.



Activate the weld. Press and release the weld button.



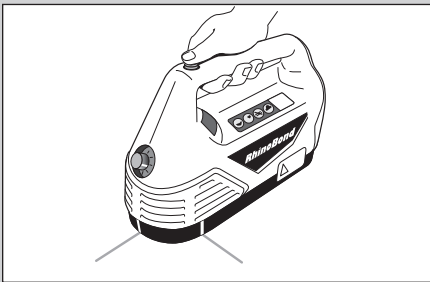
Immediately place magnetic heat sink over the welded plate.



Repeat process for each plate.

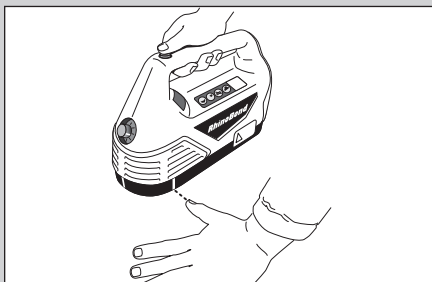
TOOL ALIGNMENT TIPS

For optimum bonding, the RhinoBond Hand Held tool should be perfectly centered over the installed RhinoBond Plate. **Here are a few tips to aid in the alignment process:**



1) Locate the plate and put a small mark on the membrane (non permanent) at the 12 o'clock and 9 o'clock (or 3 o'clock) positions as shown in the diagram. Match the lines on the front and side of the tool base with the centering marks on the membrane to align the tool.

Or



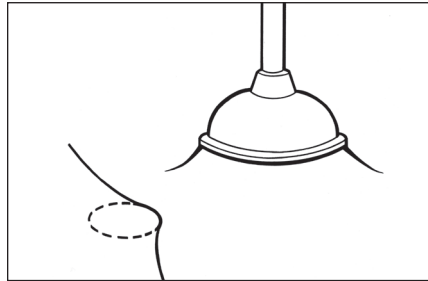
2) Locate the plate and place your hand flat on the membrane with your thumb pointed at the 9 o'clock (or 3 o'clock) position of the plate as shown in the diagram. Place the tool so the centering mark on the side of the base is directly opposite your thumb.

TOOL MAINTENANCE & STORAGE

Your RhinoBond Hand Welder is designed to require minimal maintenance. Prior to use, always check the condition of the tool, looking for cracks in the housing, cord damage and the like.

While not in use, the RhinoBond Hand Welder should be stored in its case and kept in a dry environment.

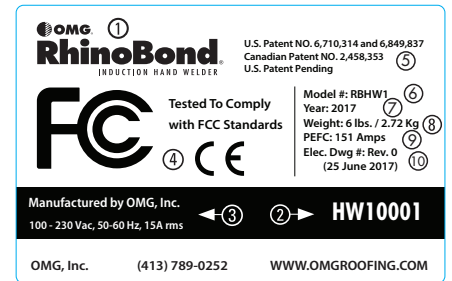
RHINO BOND WELD TEST



To determine if a weld has been made, place the commercially available suction pad next to a welded plate and create enough suction to lift the membrane. A weld will create the membrane as shown. If the assembly is not welded, the membrane will lift up from the plate.

Mark any plates that are not welded as a reminder to complete the weld.

RHINO BOND PRODUCT LABEL



- | | |
|--------------------|----------------------------------|
| 1). Machine type | 6) Model number |
| 2). Serial number | 7) Year of manufacture |
| 3). Technical data | 8) Weight |
| 4). CE, FCC | 9) Potential Earth Fault Current |
| 5). Patent numbers | 10) Electrical Drawing # |

BOND RESULTS

PLATE VIEW



MEMBRANE DELAMINATION



TOP OF MEMBRANE

100% BOND

Total, even, consistent 360° adhesion of membrane. Plate makes a visible impression on the top of the membrane.



PARTIAL BOND

Uneven/incomplete adhesion of membrane. Energy setting may be too low, tool may be off-center, or plate may be overdriven.



EXCESSIVE HEAT

Membrane may turn yellow, melt or become blistered and adhesive may char.


DISPOSAL

RhinoBond tools should never be disposed of with household refuse. Always dispose of this and other electronic equipment according to local, state and federal regulations.

Dispose of this product in accordance with the National regulations of the End User. This may include the RoHS Directive 2011/65/EU (Restriction of the use of certain hazardous substances in electrical & electronic equipment) and the WEEE Directive 2012/19/EU (Waste Electrical & Electronic equipment).

ORDERING INFORMATION

SKU	DESCRIPTION	WEIGHT	COUNTRIES SERVED
RB-HandWelder	RhinoBond HandHeld Tool	6 lbs (2.72 kg)	See Below
RBM003A-10pk	RhinoBond 10 Pack Magnet Set	40 lbs (18.14 kg)	See Below
RBPLUGKIT-F16A	Type F Plug Kit	0.5 lbs (0.23 kg)	Netherlands, Germany, Spain, Greece
RBPLUGKIT-G13A	Type G Plug Kit	0.5 lbs (0.23 kg)	Hong Kong
RBPLUGKIT-I10A	Type I (10A) Plug Kit	0.5 lbs (0.23 kg)	China
RBPLUGKIT-I15A	Type I (15A) Plug Kit	0.5 lbs (0.23 kg)	Australia, New Zealand
RBPLUGKIT-IEC60309	Type IEC60309 Plug Kit	0.5 lbs (0.23 kg)	United Kingdom (UK), Ireland

CE	 <p>OMG RhinoBond INDUCTION FASTENING SYSTEM</p>	CE
CE DECLARATION OF CONFORMITY		
<p>- Manufacturer: OMG Roofing Products, Inc. - Product Model: RhinoBond® Hand Welder - Product Serial Number, unique identifier or Batch Code: RB-Hand Welder - Product Description: HW XXXXX</p>		
<p>We, as the manufacturer, hereby declare that the Products described above are in conformity with the applicable requirements in accordance with the following European Directive(s):</p>		
<p>Low Voltage Directive 2014/35/EU EMC Directive 2014/30/EU</p>		
<p>The object of the declarations described above is in conformity with the relevant Union harmonization legislation. This declaration of conformity is issued under the sole responsibility of the manufacturer for the aforementioned product(s).</p>		
<p>The following Harmonized Standard(s) and normative references were complied with -</p>		
<p>EN IEC 60204-1:2006 + AC/2010 – Electrical equipment of machines - Part 1: General requirements EN 55011: 2010 – EMC - ISM RF Equipment Class A EN 61000-3-2: 2014 – EMC – Harmonics EN 61000-3-3: 2013 – EMC - Flicker</p>		
<p>European person authorized to compile the Technical File, on behalf of the Manufacturer, is:</p>		
<p>Mrs. Dianne Cowley Laicon Consulting Services Ltd 300 Pennistone Road Sheffield S6 2FU England</p>		
<p>Signed for and on behalf of: OMG Roofing Inc. 153 Bowles Road Agawam, MA 01001, USA</p>		
<p>Name of signatory: Chris Mader Function/Position: Codes Engineer, OMG Roofing Products</p>		
ORIGINAL DECLARATION OF CONFORMITY		
CE		CE

