

# HEATSHIELD ARMOR

## Product Installation Sheet



## Required Equipment

- Heavy duty scissors or utility knife
- Dust Mask
- Safety Glasses
- Gloves
- Long Sleeves (optional)
- Diagonal pliers
- Needle nose pliers
- Poster board or cardboard for template



**GLOVES REQUIRED**



**SAFETY GLASSES REQUIRED**



**DUST MASK REQUIRED**

## Installation Tips

Heatshield Armor™ is an [exhaust](#) heat shield blanket that is designed to retain heat in the exhaust system. Heatshield Products recommends allowing for a 1-3" gap along the seam when installing Heatshield Armor™. for naturally aspirated automotive and truck applications. Use Heatshield Armor™ with ½" thickness for all forced induction, racing, diesel, and DPF applications and use a 2-3" gap along the bottom of the exhaust pipe. For marine, industrial and GenSet applications do not use an air-gap. Completely wrap/encapsulate the pipe with Heatshield Armor.

**FLEX PIPES-** All flex pipes should have a separate piece of Heatshield Armor installed on them. Do not cover a flex pipe and solid pipe with one piece, it will prematurely cause a failure of Heatshield Armor.

## Installation Steps

1. Heatshield Armor can only be installed on a clean exhaust system. Exhaust system components must be degreased and cleaned so that no debris or chemicals remain on the pipes. Failure to do so may result in debris or chemical combustion.
2. Safety glasses, gloves, and dust mask are REQUIRED when handling Heatshield Armor. Wearing a long sleeve shirt is also recommended.
3. Use butcher paper or poster board to create a template for the armor (Images 1-3).
  - 3A - For Marine and PowerGen applications skip to Step 3B. Measure the OD of your pipe(s), then multiply by the outside diameter by 3.14. Subtract 1 (or 2) from this number. This is the width you should trim your template or Heatshield Armor. This gives the proper gap to cover your pipe. For example, 3" diameter pipe:  $3 \times 3.14 = 9.42$  now  $9.42 - 1 = 8.42$ " width for Armor. Move to Step 3C.
  - 3B - For Industrial, Marine and PowerGen applications only - Measure the OD of your pipe(s). If you are using the ¼" thick Heatshield Armor, add ½" to the diameter, then multiply by 3.14. Take that number and add an additional ½". If you are using the ½" thick Heatshield Armor, add 1" to your outside diameter then multiply by 3.14. Take that number and add an additional 1". This is the width you should trim your Heatshield Armor to cover your pipe. For example, 3" diameter pipe, 1/2" thick Armor:  $(3 + 1) \times 3.14 = 12.56$  now  $12.56 + 1 = 13.56$ " width for Armor.
  - 3C - Measure length. Write this measurement down. For ¼" thick Armor add ½" to length measurement. For the ½" thick Armor and add 1" to length measurement. The extra material is for Step 7.
  - 3D - For exhaust bends cut wedges (pizza slices) into poster board to help get around the curve. For complex pipes with multiple bends, it may be necessary to make the armor into a "clamshell" on the pipe (Images 16-19)
4. Use butcher paper or poster board to create template. Test the template and make any changes at this time. When test fitting, make sure the gap in the armor (Images 11 & 12) is facing in the proper direction (normally towards the ground or away from interior of vehicle). For industrial, powergen, and marine application, you do not use a gap. (Images 13-15).
5. Trace template onto the Heatshield Armor (Image 4).
6. Cut out Heatshield Armor with heavy duty scissors.
7. Use utility knife to trim either ¼" or ½" of the BioCool™ insulation (depending on thickness of the Armor) from all edges (Images 5-7). Fold over outer armor layer (Image 8) to give the Heatshield Armor a finished edge. On industrial, marine, and genset applications: Do not fold down one edge on any seams where the Armor will meet. Instead leave one side with a "flap", this will make it possible to "seal" the seams (Images 13-15).
8. Take the Heatshield Armor and place the insulation side directly on the exhaust pipe (Images 9-20). The aluminum side should be facing out. For Industrial, Marine and PowerGen applications skip to Step 10.
9. Be sure to face the gap in the direction (normally towards the ground) you would like to divert the heat to.
10. Secure with Thermal-Tie (sold separately if kit not purchased) HP Tie Wire, safety wire, or clamp.

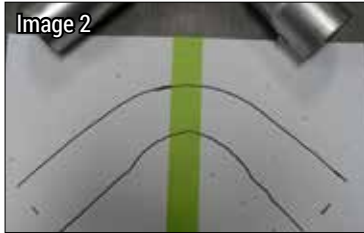
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## Images

### Images 1-4: Make template, trace onto Armor



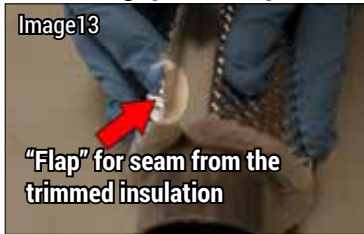
### Images 5-8: Trim 1/4" or 1/2" of insulation from the edge



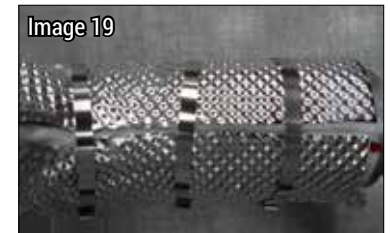
### Images 9-12: Installed on pipe with gap



### Images 13-16: Installed on pipe without gap, use flap to "seal" seam



### Images 17-20: "Clamshell" on pipe for complicated or tight bends



#### PLEASE NOTE:

Heatshield Armor may smoke after installation; it will eventually stop. Smoke is a normal by product of the curing process; your Heatshield Armor™ will not burst into flames.