



REQUIRED EQUIPMENT:

- Heavy duty scissors
- Utility knife
- Needle nose pliers
- Diagonal pliers
- Safety glasses
- Dust mask
- Gloves
- Sharpie or other marker
- Butcher paper, cardboard, or poster board
- Long Sleeves (optional)

Heatshield Armor™ is an exhaust heat shield blanket that is designed to retain heat in the exhaust system. Heatshield Products recommends allowing for a $\frac{3}{4}$ " to 1" gap along the seam when installing Heatshield Armor™ for naturally aspirated automotive and truck applications. Use Heatshield Armor™ with $\frac{1}{2}$ " thickness for all forced induction, racing, diesel, and DPF applications and use a 2-3" gap along the seam of the Heatshield Armor. For marine, industrial and GenSet applications do not use an air-gap, completely wrap the pipe to reduce as much engine room temperature as possible.

INSTALLATION:

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).
 - 4A - For Marine and PowerGen applications skip to Step 4B. Measure the OD of your pipe(s), then multiply by the outside diameter by 3.14. This is the width you should trim your template or Heatshield Armor to cover your with the proper gap pipe. Move to Step 4C.
 - 4B - For Industrial, Marine and PowerGen applications only - Measure the OD of your pipe(s). If you are using the $\frac{1}{4}$ " thick Heatshield Armor, add $\frac{1}{2}$ " to the diameter, then multiply by 3.14. Take that number and add an additional $\frac{1}{2}$ ". If you are using the $\frac{1}{2}$ " 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.
 - 4C - For the length, measure and add $\frac{1}{2}$ " for the $\frac{1}{4}$ " thick Armor and add 1" for the $\frac{1}{2}$ " thick Armor. The extra material is for Step 7.
 - 4D - 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 $\frac{1}{4}$ " or $\frac{1}{2}$ " of the 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 safety wire, clamp, or Thermal-Tie.

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.



SAFETY GLASSES REQUIRED



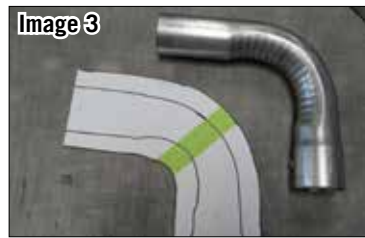
GLOVES REQUIRED



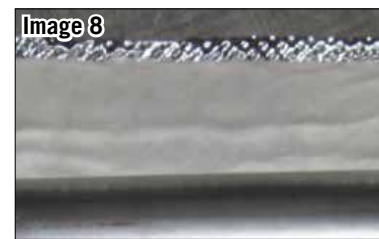
DUST MASK REQUIRED



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

