

# Aluminum Alloy Repair

Welding, Grinding, and Finishing

## Safety Precautions

### Precautions for Ensuring Safety:

1. Although aluminum is non-toxic, it is lightweight, so fine particles of metal given off by sanding operations tend to float in the air. It is therefore vital that operators protect their lungs and eyes from this dust.
2. Small pieces of aluminum alloy spattered by MIG welding can be projected over considerable distance. It is therefore important to provide protection not only for the welder operators themselves, but also for anyone in the surrounding areas.
3. The sparks generated from the arc during inert gas arc welding are very bright and may hurt the eyes if viewed directly. A protective shield for the eyes must be worn at all times when welding.

### Use of protective gear to ensure safety:

Work overalls with long sleeves, a cap, and safety shoes must be worn at all times. Depending on the job to be done, protective goggles, gloves, ear plugs, and dust-proof mask should also be worn (see page 2-17).

## CAUTION

- When aluminum alloys are heated, they melt without changing color.

Melting temperature

Aluminum alloys: Approx. 1184°F (640°C) (depends on alloy)

Steel plate: Approx. 2732°F (1500°C)

- Aluminum alloys can be repaired in virtually the same way as steel sheets, but it is important to have a good grasp of their properties and be thoroughly familiar with their limitations.
- Aluminum alloys tend to overheat during sanding. When they overheat, the metal tends to flake and clog the filing surface of the sanding tool. If a tool with a clogged surface is used, it will leave scratches and marks on the base metal.