Hot Work Safety – Toolbox Talk Script (Full Version)

Good morning team,

Today's topic is Hot Work Safety — and it's a big one.

When we say "hot work," we're talking about any activity that produces heat, sparks, or flames. That includes welding, cutting, grinding, soldering, using blowtorches, and even some types of drilling.

Hot work is a leading cause of industrial fires and explosions. It can also cause burns, eye injuries, and damage to property. The danger comes from three things coming together:
1. A source of heat or sparks.
2. Something flammable.
3. Oxygen in the air.

If all three meet, you have a recipe for disaster.

That's why hot work is strictly controlled on our site — through permits, planning, and strict safety rules.

1. Why Hot Work Safety Matters
- Thousands of workplace fires each year are started by hot work.
- Fires can spread faster than you can react, especially in areas with combustible materials.
- Burns from molten metal, sparks, or flames can cause lifelong injuries.
- In confined spaces, hot work can also cause toxic fumes and oxygen depletion.

2. Hazards of Hot Work
2.1 Fire and Explosion – Sparks can travel up to 10 meters and ignite combustible materials.
2.2 Burns – Direct contact with flames, hot metal, or molten slag.
2.3 Eye Damage – Intense light from welding (UV and IR radiation) can cause "arc eye".
2.4 Toxic Fumes and Gases – Welding produces hazardous fumes such as manganese, chromium, CO.
2.5 Confined Space Hazards – Oxygen depletion and toxic gas build-up.

3. Hot Work Permit System
No hot work without a valid Hot Work Permit. Ensures area is checked, flammables removed, fire watch assigned, equipment ready.

4. Control Measures – How We Stay Safe
4.1 Preparation – Remove combustibles or cover with fire blankets.
4.2 Fire Watch – Stay during work and 30 min after.
4.3 Ventilation – Remove fumes, test air in confined spaces.
4.4 PPE – Helmet, flame-resistant clothing, gloves, boots, hearing and respiratory protection.
4.5 Control Sparks – Spark arrestors, screens, protect hoses/cables.

5. Do's and Don'ts
Do: Follow permit, check for vapors, keep extinguishers nearby.
Don't: Work near flammables without protection, ignore alarms, leave hot equipment unattended.

6. Safe Work Procedure
- Apply for permit.
- Inspect and prepare area.

- Set up barriers and warning signs.
- Wear PPE.
- Assign fire watch.
- Perform hot work safely.
- Maintain fire watch 30 min after.
- Close permit when safe.

7. Case Study
A welder cut steel without checking the area. Sparks ignited boxes 5m away. No permit, no fire watch — millions in damage.

8. Q&A;
- Why do we need a permit?
- How long should fire watch stay?
- How to protect combustibles?

Closing Words
Hot work is a major fire risk. The permit is a safety shield. Fires start from unnoticed sparks — don’t let it happen here. Work safe, speak up, and go home safe.

Stay alert, stay safe, and let’s have a productive day.