



Materials Engineering Department

General Materials Branch

Casting Technology II

Fourth Class

Lecture Elven: Safety and
Environmental Hazards in Casting

General Health Hazards

- The general Health hazards in foundries during casting are
 1. Mechanical Hazards
 2. Natural Hazards
 3. Chemical Hazards
 4. Environmental Hazards

General Health Hazards

No	Type of Hazards	Cause
1	Mechanical Hazards	Any accidents caused by construction or with machines and Interments use and Handing Materials
2	Natural Hazards	Any thing affects the foundry men Health because of Heat Moist Cold ,Electricity
3	Chemicals Hazards	The effect of Gases , Vapors and Dust of chemical Materials
4	Work Environmental Hazards	Lack of first aid kit and rescue service and Ambulance

Hyperthermia

- Snice casting is heat related process so hyperthermia is main cause of health hazards
- Hyperthermia has a Physiological effects and psychological effects on human being

Hyperthermia Side Effects

1. Thermal Stress
2. Eyes Infections
3. Skin Infections
4. Thermal Shock

Safety Measures in Foundry

1. Engineering Methods.
2. Medical Methods.
3. Personal Safety Methods.
4. Training.

Engineering Ways

1. Substitute the cold Processing instead of Hot Processing
2. Isolating Hot processing in special Places
3. The Use of reflecting shields (Al-Plates Reflect 90% Heat)
4. Ventilation Natural or Air Conditioning

Medical Ways

1. Excluding Foundrymen with Heart disease
2. Excluding Foundrymen with Thyroid disease
3. Regular Medical Check ups

Personal Ways

1. Foundrymen must wear overalls with fast sweat or has air layers for protection
2. Foundrymen must wear reflecting Overall from Aluminum or copper

Educating

1. Educating Foundrymen about hazards
2. Enough Breaks and rest time
3. Less physical effort for Foundrymen