

LEAD-FREE 5.56mm AMMUNITION

2000 NDIA

Joint Services Small Arms Symposium

Session VII - Ammunition and the Environment

August 30, 2000

Objective

- *Eliminate the use of Lead in the 5.56mm M855 Projectiles.*
- *Transition the W-Tin Core Technology into high rate production.*

- ***W-Tin Material Offers:***
 - ***“Drop-in” Replacement for Lead***
 - ***Equivalent Density & Volume***
 - ***Most Cost Effective Lead Replacement Material to Date***
 - ***Flexibility in Future Designs***
 - ***Easily change density by altering the W-Tin blend composition***
 - ***Net Shape formed core***
 - ***Mechanical properties can be tailored to meet application***
 - ***Process is conducive to High-Rate Production***



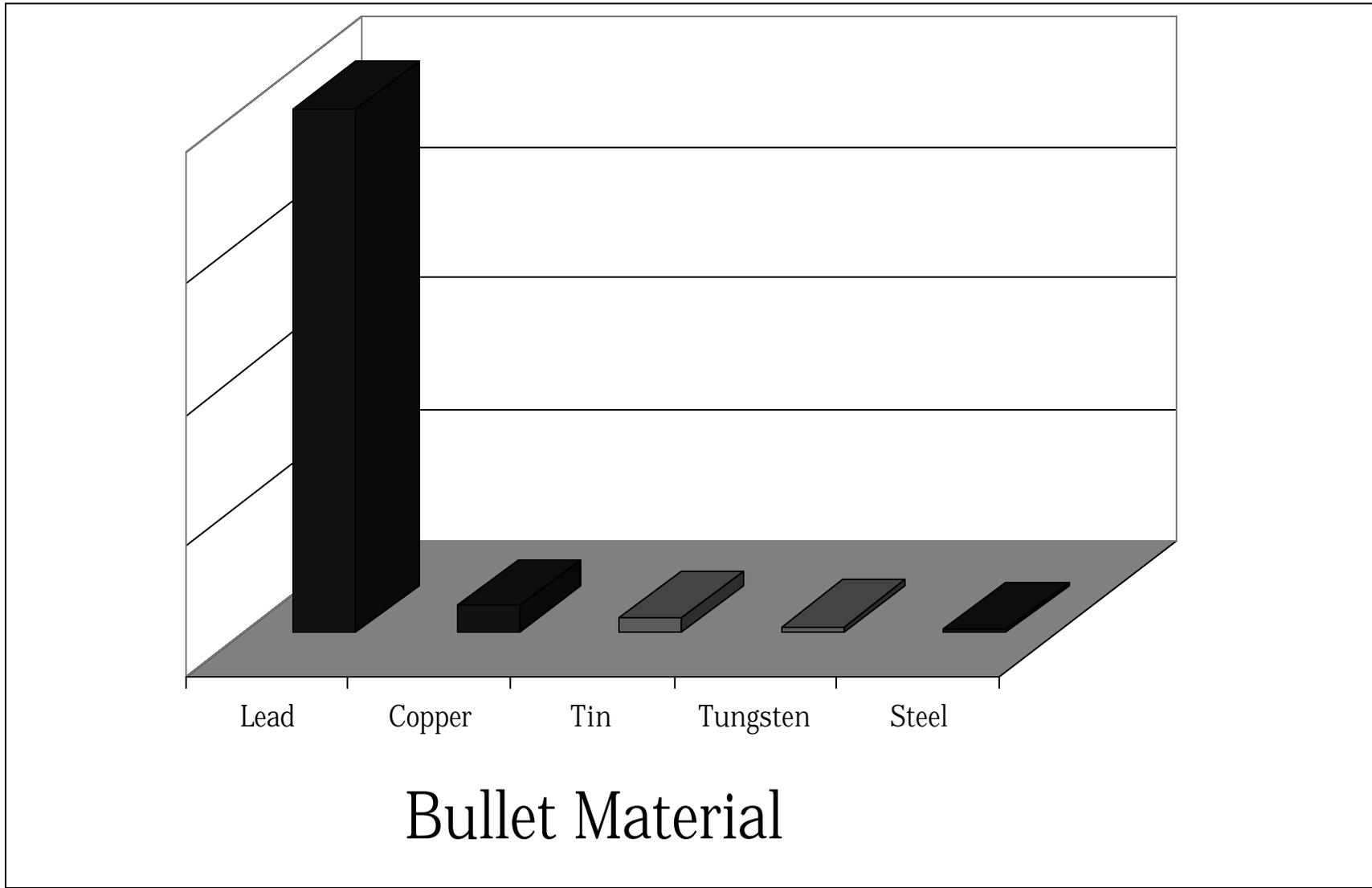
Tungsten-Tin



Lead

Relative Toxicity of 5.56mm Bullet Materials

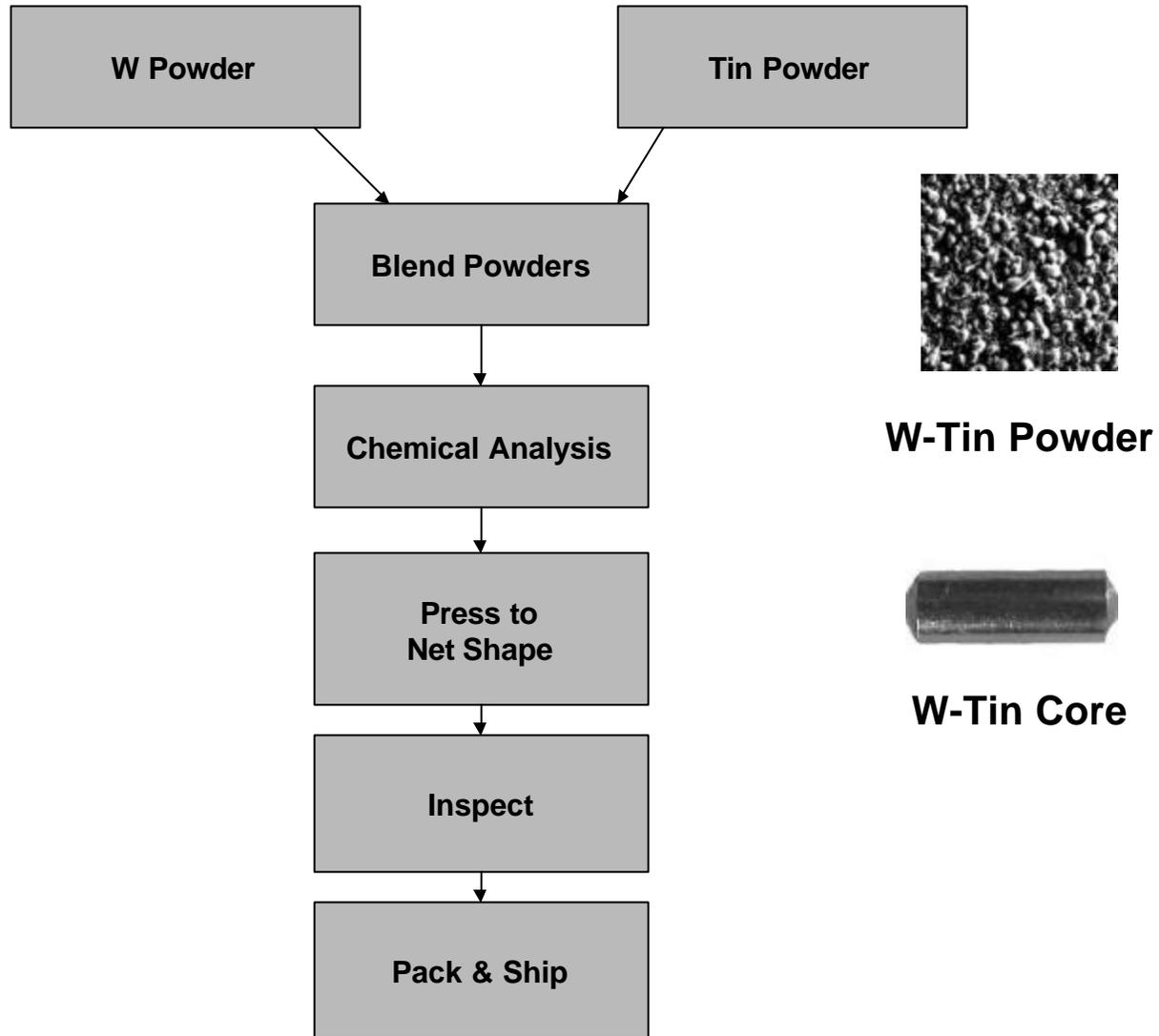
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Ref: OSHA Reg. (Permissible Exposure Limits) - 29CFR 1910.1000

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W-Tin Process Flow



Conclusion

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- ***W-Tin is a Viable Replacement Material for Lead in Small Caliber***
 - ***Non-Toxic Alloy***
 - ***Cost Competitive to Alternate Materials***
 - ***“Drop-In” to 5.56mm Bullet has been Demonstrated.***