

# AMC

AMERICAN METALCASTING CONSORTIUM

## ADVANCES IN METAL MOLD RAPID TOOLING FOR TANK TRACK INSERTS



**Rapid tooling methods that shorten lead times and reduce costs can expand the DLA casting supply base for high quality, dimensionally accurate parts.**



This tank track insert will absorb heat from the rubber, extend track life and prevent strip-off failure.

On military tracked vehicles, an aluminum heat sink is embedded between the track and the rubber to absorb the excessive heat from the rubber to prevent this separation. St. Clair Die Casting, the die caster for these heat sinks, had to frequently replace the steel dies because of excessive thermal fatigue cracking. The replacement dies generally took 20-26 weeks to manufacture.

***“Tank tread usage is 5 to 10 times as high now as in peacetime conditions, the Army Chief Logistcian estimates.”***

***The Associated Press, May 2004***

The AMC project team, led by Case Western Reserve University incorporated new rapid tooling techniques and recommended replacing the old steel dies with two alternate grades of steel. These new techniques can produce dies in four weeks and the dies are currently outperforming the old die by 500%. Because of this technology, diecasters are now able to meet increased demands for tank track inserts.

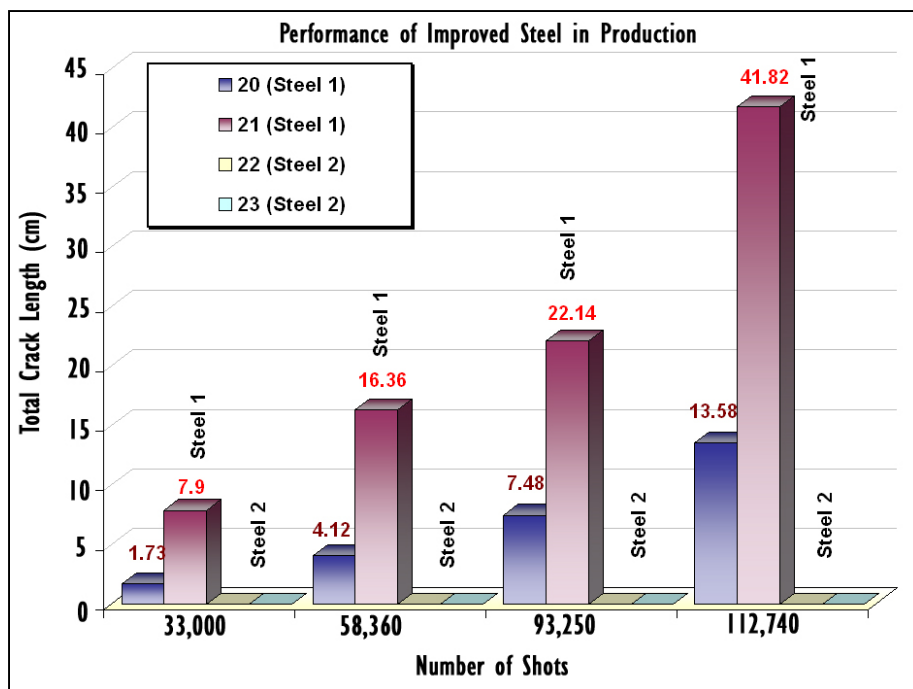


**Material: A380**

**Size: 4.5"x2.5"x1.15"**

**Weight: 1.1 Pounds**

# Advances in Metal Mold Rapid Tooling for Tank Track Inserts



## System Availability and Sustainability

- New dies completed in 4 weeks vs. 20 – 26 weeks previously
- New dies out-perform old die life by over 500%

## Functional Capability Areas

- Force Application
- System Availability
- Sustainability

## Benefiting Commands

- TACOM
- AMCOM

## Nominated for a Defense Manufacturing Conference Achievement Award in 2004

*“Die steels we implemented in collaboration with Case Western Reserve University on the AMC Program have produced five to six times more parts without cracking, enabling us to keep up with the increased demand and tight delivery schedules.”*

*Don Cherry, Director of Engineering  
St. Clair Die Casting*



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