

Non-Deforming, Shock Resisting, Air Hardening Tool Steel



Advantages

- 100% Decarb Free (Pre-Machined)
- Excellent Machinability
- High Compression Strength
- Impact and Shock Resistant

Typical Surface Condition* (Pre-Machined)

Ground Top and Bottom (+.015"/+.035" oversize)
 Sides Saw Cut (+1/8" oversize)
 Length Saw Cut (+1/4" oversize)

Typical Applications

Blanking Dies	Trimmer Dies	Master Hubs
Forming Dies	Gages	Bending Dies
Thread Rollers	Punches	Cutters

Thermal Treatment Summary*

- Annealing** – Generally furnished annealed. Bring part up slowly (400°F/hour) to 1550°F, and hold at temperature for at least one hour/inch of greatest cross section. Slow cool in the furnace (50°F/hour) to 1000°F. Then allow cooling to continue in the furnace or still air.
- Hardening** – Bring up to pre-heat temperature at a rate not to exceed 400°F/hour. For large and intricate items, heat to a uniform 1150°F/1250°F, then elevate temperature to 1300°F/1400°F and hold for uniformity. Smaller and less intricate pieces may skip the first step and proceed right to 1300°F/1400°F. Take slowly to the hardening temperature of 1725°F. Hold at temperature (furnace or salt) for 30 minutes for the first inch of thickness, allow an additional 15 minutes for each additional inch of thickness.
- Quenching** – In air, pressurized gas, or warm oil to 150°F/125°F. Larger sections should be quenched in oil. If using an oil quench, then quench until black (900°F), cool in still air to 150°F/125°F.
- Tempering** – Immediately after quench, hold at temperature for one hour/inch of greatest cross section (2hrs min.), then air cool to room temperature. Optimum tempering temperature for cold work tools is 400°F. Resulting hardness will be approximately 57 Rockwell “C”, which provides the maximum benefit of toughness to hardness. For sections larger than 6” diameter, hold at tempering temperature for a min. of 6 hours. For hot work applications double tempering is required.
- 400°F typical hardness Rockwell 57 “C” (Air) / Rockwell 58 “C” (Oil)
 1100°F typical hardness Rockwell 48 “C” (Air) / Rockwell 48 “C” (Oil)

*Above values are typical and are not guaranteed.

Lusco #7 is an excellent grade of air hardening tool steel for general purpose usage in the tool room. **Lusco #7** shows low distortion in heat treatment due to its chemical make-up. It will last longer and is more durable in severe service life applications.

Lusco #7 should be considered as an upgrade when your drawings call out for S-7 tool steel.

(Past Protected Trade Name of Associated Steel Corporation – Molex® #8 Modified)

Sizes Available*



Rounds
1/4” to 10”



Squares
1/2” to 5”



Flats
1/4” to 8” thick
1” to 12” wide

Please call for all METRIC requirements.

Lengths Available

10 Ft to 12 Ft Random Lengths
 Custom Cut To Lengths

