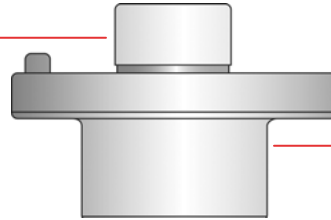




# Mate MXC™ Tooling System For Thick Turret Punch Presses

- DuraSteel™ punches with superior hardness and toughness for extended interval between regrinds.
- Hardened pin for precise orientation of punches for improved piece part quality.



- 1/4 degree back taper and near polished punch flanks to reduce friction, eliminate galling, and maximize punch life.
- Maxima® coating available for extreme applications.

- Smooth rounded edge strippers to eliminate sheet marking and improve piece part quality.



- Compatible with existing conventional tooling inventory for maximum flexibility.

- Slug Free® die geometry eliminates slug pulling to improve piece part quality and increase tool life.



- Highly wear-resistant tool steel provides optimum balance between hardness and toughness, for extended life.

Visit: [mate.com/MXC](http://mate.com/MXC)

	2" C Station	3-1/2" D Station	4-1/2" E Station
--	--------------	------------------	------------------

	2" C Station	3-1/2" D Station	4-1/2" E Station
<b>Punch</b>			
• Round	PXCC0A	PXCD0A	PXCE0A
• Shape	PXCC_A	PXCD_A	PXCE_A
• Maxima® Coating			
• Ultra TEC® Adapter	A0VCWSPA	A0VDWSPA	A0VEWSPA
<b>Stripper</b>			
• Round	SXCC0A	SXCD0A	SXCE0A
• Shape	SXCC_A	SXCD_A	SXCE_A
<b>Slug Free® Die</b>			
• Round	D0AC00	D0AD00	D0AE00
• Shape	D0AC_0	D0AD_0	D0AE_0
• Die Shim Pack	MSAC	MSAD	MSAE
	0.016(0.40)		
	0.032(0.80)		
	0.048(1.20)		

## Add-Ons:

### Narrow Width Add-Ons

Point diameter is less than 0.061(1.55) - to punch, stripper and die

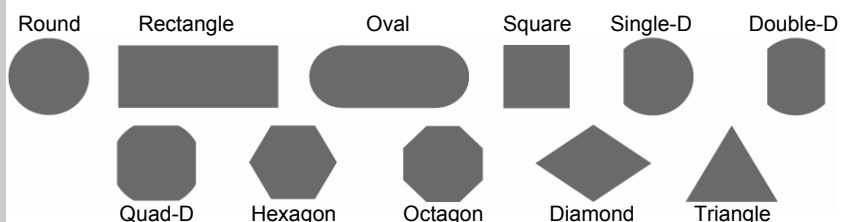
Point diameter is less than 0.092(2.35) - to punch, stripper and die

Point width is less than 0.125(3.20) - to punch, stripper and die

### Non-Standard Angle Setting Add-Ons

Punch and Die

## Standard Shapes:





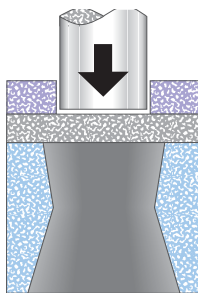
# Mate MXC™ Tooling System For Thick Turret Punch Presses

## Mate Slug Free® Dies Eliminate Slug Pulling

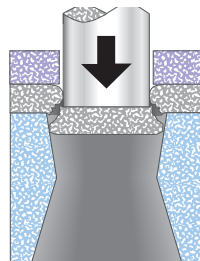
Slug pulling is a condition where the slug returns to the top of the sheet during the stripping portion of the punching cycle.

The Slug Free die has been designed with an opening that has a constriction point below the surface so the slug cannot return once it passes this point. Once the slug is separated from the punch, it is free to fall away from the punching area. Slug pulling is eliminated. For more information, visit [mate.com/slugfree](http://mate.com/slugfree).

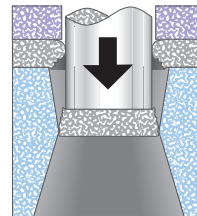
- ▶ Eliminate slug pulling
- ▶ Reduce tool breakage
- ▶ Improve tool life
- ▶ Increase quality



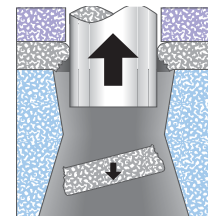
Material held securely by stripper before punch makes contact.



Punch penetrates material. Slug fractures away from sheet.



Pressure point constricts slug. Punch stroke bottoms out as slug squeezes past pressure point.



Punch retracts. Slug is free to fall down and away through exit taper of Slug Free® die.

## Mate DuraSteel™ High Performance Tool Steel

Mate DuraSteel™ is a high quality, air hardening tool steel designed specifically for use in high performance tooling systems. Mate DuraSteel has many advantages when compared to alternative tool steels commonly available, including:

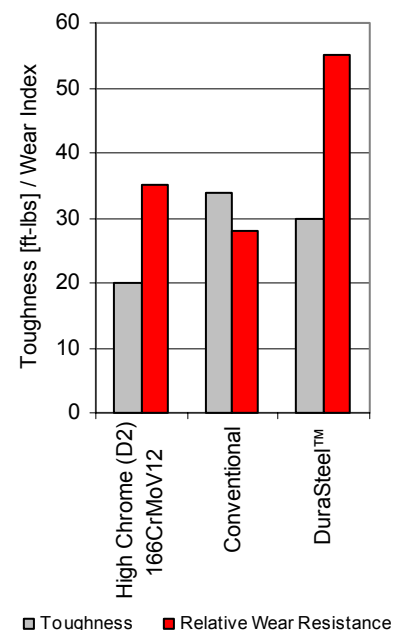
**Superior Wear Resistance**—Mate DuraSteel offers superior resistance to adhesive-wear and abrasive-wear to maximize the interval between regrinds.

- Increased Vanadium carbides—harder wearing than chromium carbides for greater resistance to abrasive-wear.
- Increased Tungsten carbides—harder wearing and offer better red hardness; increased resistance to high temperatures which may anneal or damage the material.
- Higher hardness—increased alloy content results in higher effective hardness for better wear resistance.

**Increased Toughness**—the chemical composition and heat treatment processes used with Mate DuraSteel make it tougher than conventional tool steels in impact strength tests.

- The inclusion of tungsten and vanadium allows the carbon content to be reduced, which increases the toughness.

**Better Value**—Customer trials have shown that tools manufactured in Mate DuraSteel last 100% longer between regrinds than tools manufactured using conventional tool steels. By increasing the interval between regrinds, the tooling lasts longer and punches many more holes before needing to be replaced.



□ Toughness ■ Relative Wear Resistance