

Limit Switches

QUALITY TESTED TO
PROVIDE LONG,
DEPENDABLE SERVICE



Limit Switches



Thinswitch® Limit Switch



U.S. Patent No. 5,446,252

The Thinswitch® limit switch is specially designed to verify ejector plate return before permitting the mold to close in injection molding machines. Thin enough to fit inside the ejector housing, it can also be used for core slides, or any place space is limited.

The Thinswitch limit switch has been tested for reliability in more than 10 million cycles without failure. Two switches can be used in series for larger molds to ensure the ejector plate returns, preventing costly mold damage.

- Prevents costly damage by ensuring the ejector assembly is fully returned
- Adjustable operating point allows actuation between .187" and .250" from the base
- 3/16" thick design fits snugly behind the ejector plate in the space provided by the rest buttons
- Included mounting hardware installs the Thinswitch Limit Switch easily
- Stripped and tinned 6 ft. wire leads make the switch ready to install without modification
- 175°F (79.4°C) standard temperature rating enables use for most molding applications
- **Quality tested over 10 million cycles to provide long, dependable service**
- Linear adjustment set screw can be set within .005 to .0025
- Premature spring and switch failure may result by adjusting the operating point more than .020" (.5mm) before the end of the ejector plate stroke
- In stock to provide same day delivery

**RATED CURRENT VS. STEEL TEMPERATURE
TSW 2220**

| AMPS | °F | °C |
|------|-----|------|
| 5.0 | 85 | 29.4 |
| 4.0 | 120 | 49.0 |
| 3.0 | 155 | 68.3 |
| 2.0 | 175 | 79.4 |

NOTE: Please contact D-M-E for high-temperature applications.

THINSWITCH LIMIT SWITCH CATALOG #TSW2220

| SPECIFICATIONS | | MATERIALS | |
|-----------------------|---------------------------|------------|--|
| ELECTRICAL: 250VAC | 5 AMPS RESISTIVE | BODY | FIBERGLASS-REINFORCED NYLON |
| | 4 AMPS INDUCTIVE | SPRING | STAINLESS STEEL |
| 28VDC (SEA LEVEL) | 5 AMPS RESISTIVE | BACK COVER | POLYESTER FILM |
| | 4 AMPS INDUCTIVE | WIRE LEADS | 22GA STRANDED, 3-CONDUCTOR, SHIELDED CABLE, 6 FT. (1.8M) LONG, ENDS STRIPPED AND TINNED |
| OPERATING TEMPERATURE | 175°F MAX (79.4°C MAX) | | |
| SWITCHING | SPDT | | |

NOTE: Pressure required to activate the switch: 1 oz. min., 5 oz. max.

The Thinswitch Limit Switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.

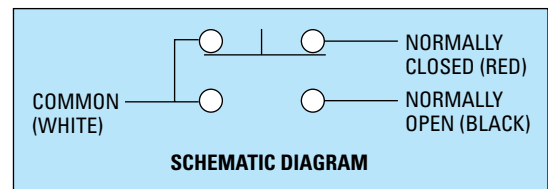
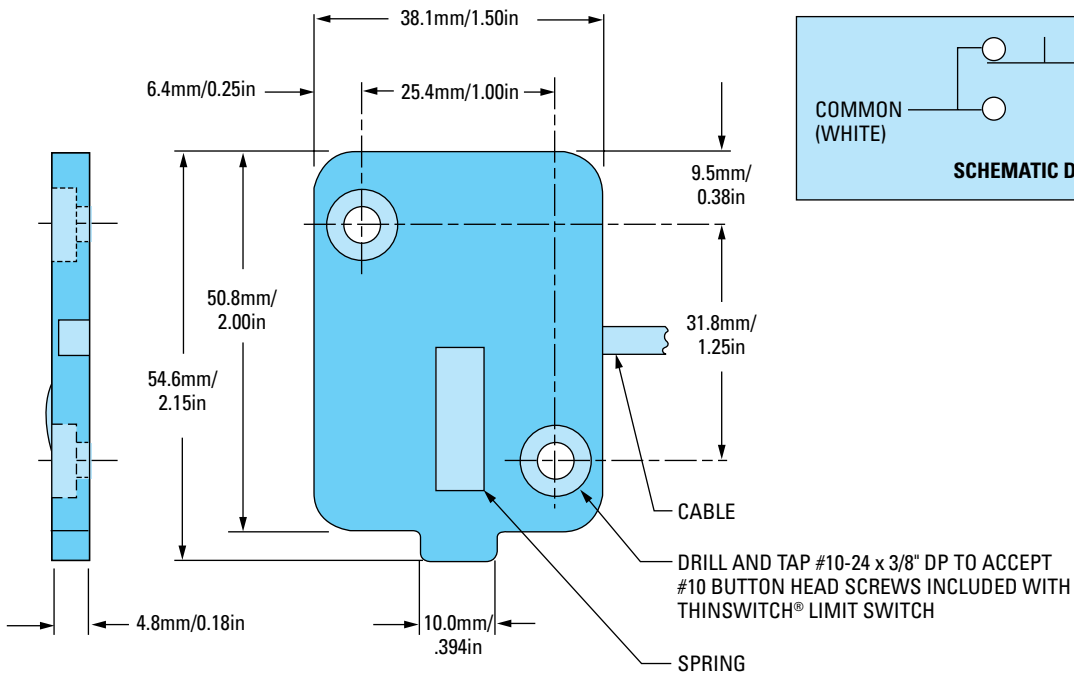
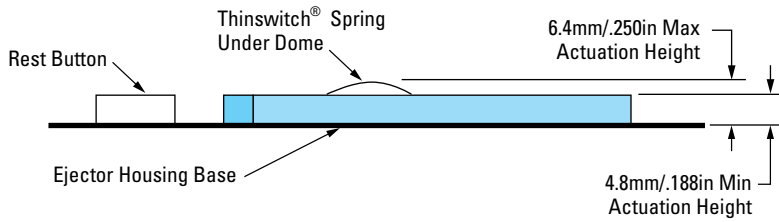


Thinswitch® Limit Switch

| PARTS INCLUDED | |
|---|-----|
| DESCRIPTION | QTY |
| THINSWITCH LIMIT SWITCH | 1 |
| 4-40 ALLEN WRENCH (FOR HEIGHT ADJUSTMENT) | 1 |
| SCREWS (#10-24 X 1/2" BUTTON HEAD) | 4 |
| WIRE CLAMPS (.5" X .82" X .5" WITH .213" MOUNTING HOLE) | 2 |
| INSTRUCTION SHEET | 1 |



Thinswitch includes 2 wire clamps.



Two- and three-dimensional part files are available from the D-M-E web site at www.dme.net.

NEW! Smartflow® Thinswitch® Liquid-Resistant Limit Switch

U.S. Patents 5,446,252
and 6,982,392



General Description

Smartflow® Thinswitch® Liquid-Resistant Limit Switch is designed to verify ejector plate return in areas where occasional water or oil spray is present. The Thinswitch helps prevent accidental mold close in injection molding applications by providing a position switch that is tied to the injection molding machine control. The liquid resistant switch uses the same mounting hole locations as the original Thinswitch.

The Thinswitch has been tested for reliability over 10 million cycles without failure. Two switches can be used in series for larger molds to ensure the ejector plate return, preventing costly mold damage.

Features and Benefits

- **Over 10 million cycle life**
- 175°F (79.4°C) standard temperature rating
- 250°F (121°C) high-temperature unit for higher temperature needs
- Adjustable actuation between .187" and .250" from the mold base
- 3/16" thick design fits snugly behind the ejector plate between the rest buttons
- Stripped and tinned 6 ft. wire leads
- Mounting screws and wire clips included

NOTE: Premature spring and switch failure may result by adjusting the operating point more than .020" (.5mm) before the end of the ejector plate stroke.

T-222-LR 175°F (79.4°C) operating temperature
HT-291-LR 250°F (121°C) operating temperature

SPECIFICATIONS

Part Number/Operating Temperature: T-222-LR Standard Model, 175°F max. (79.4°C max.)
HT-291-LR High Temp Model, 250° max. (121°C max.)

Switching: SPDT

Electrical: 250VAC – 5 amps resistive, 4 amps inductive (max)
28VDC (sea level) – 5 amps resistive, 4 amps inductive (max)

MATERIALS

Body: Fiberglass-reinforced nylon

Dome: Polyurethane

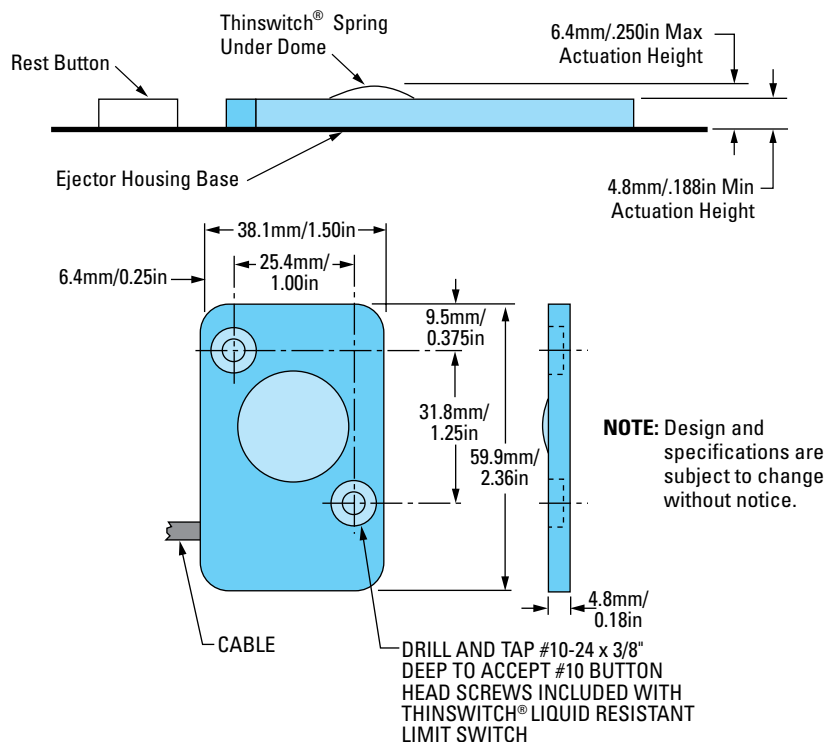
Back Cover: Polyester Film

Wire Leads: 22ga stranded, 3-conductor, shielded cable, 6 ft. (18m) long, ends stripped and tinned

RATED CURRENT (RESISTIVE) VS. OPERATING STEEL TEMPERATURE

| T-222-LR | | HT-291-LR | | | |
|----------|-----|-----------|------|-----|-------|
| AMPS | °F | °C | AMPS | °F | °C |
| 5.0 | 85 | 29.4 | 5.0 | 100 | 37.7 |
| 4.0 | 120 | 49.0 | 4.5 | 155 | 68.3 |
| 3.0 | 155 | 68.3 | 4.0 | 210 | 98.8 |
| 2.0 | 175 | 79.4 | 3.5 | 250 | 121.1 |

The Thinswitch® Limit Switch is designed for use in very low power mold protection control circuits. It is not intended to switch heavy loads in power applications.



CounterView

100-200 SERIES

D-M-E CounterView Mold Counter

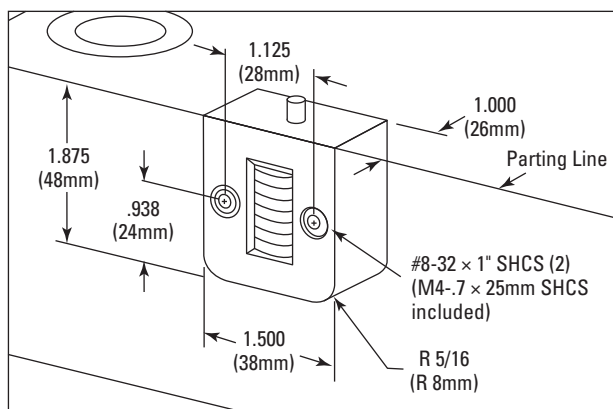
Accurately monitors mold operation, validates process monitoring data, and assists mold maintenance procedures.

With a maximum operating temperature of 250°F (121°C), this precise device uses a non-resettable, mechanical, 7-digit counter to record the number of times a mold closes. Easily mountable to accommodate changeovers for different mold insert heights, the unit's counting mechanism relies on a sensor that detects when the mold has closed. Each mold cycle triggers the counting mechanism to increase the count on the display.



Benefits

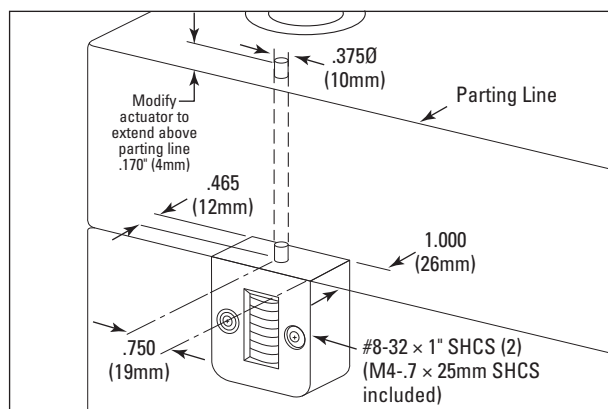
- Positively monitors mold activity
- Confirms process monitoring data
- Optimizes mold maintenance procedures
- Enables access to mold information online at <http://moldmonitor.com>
- Glass-filled nylon housing for rugged durability



Parting Line Mount

Parting line mount makes unit easily visible.

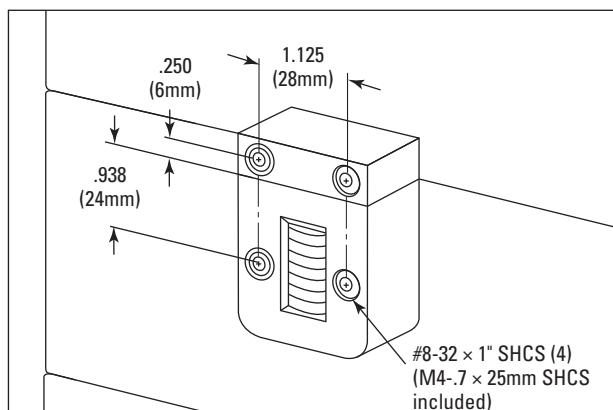
| | |
|----------|-----------------|
| CVPL100D | Inch Standard |
| CVPL200D | Metric Standard |



Internal Extension Mount

Machinable 8" (203mm) extension enables support plate or rail installation.

| | |
|----------|-----------------|
| CVIN100D | Inch Standard |
| CVIN200D | Metric Standard |



External Mount

Pocket machining not necessary. Designed specifically for retrofit applications.

| | |
|----------|-----------------|
| CVEX100D | Inch Standard |
| CVEX200D | Metric Standard |

Each CounterView has a unique serial number that allows users to view mold information online at moldmonitor.com.

CounterView is a registered trademark of Progressive Components.

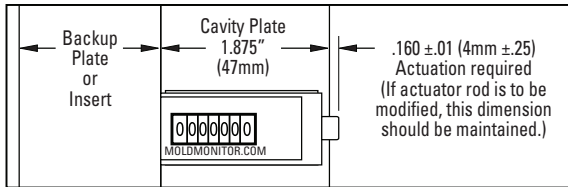
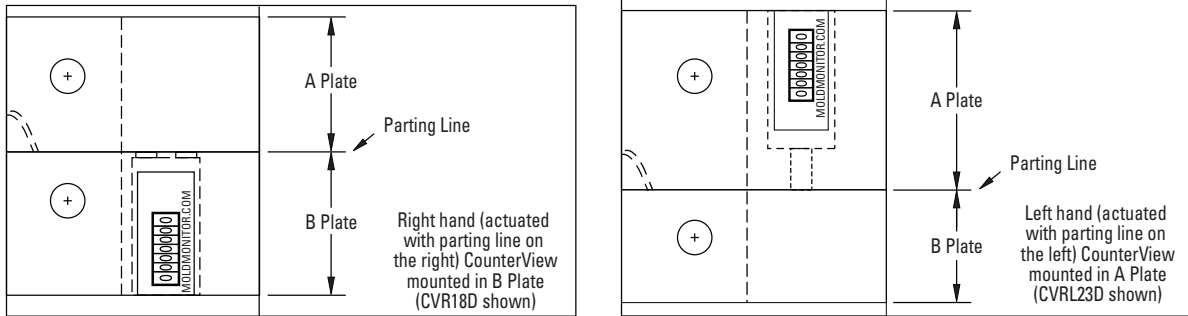
U.S.# 5,571,539

Others issued and pending

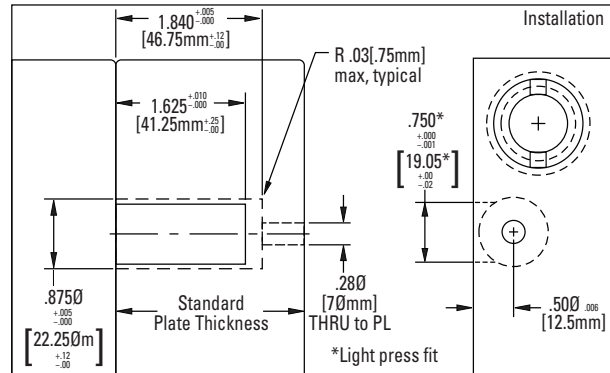
CounterView R-SERIES

CounterView® R-Series

The CounterView accurately monitors mold operation, validates process monitoring data, and assists mold maintenance procedures. With a maximum operating temperature of 250°F (121°C), this precise unit has a non-resettable, mechanical, 7-digit counter and a glass-filled nylon housing for rugged durability.



The R-Series CounterView can be installed in the A or B plates with a minimum thickness of 1.875" (47mm). Larger plates utilize a threaded rod (included with each) that is pre-machined to the appropriate length for standard plate thicknesses to provide consistent actuation.



Parting Line at Left



Each R-Series CounterView includes the actuator. All except CVR18D and CVRL18D require attachment of the actuator rod to the threaded unit.

Parting Line at Right



Inch Standard

| ITEM Number | Nominal plate thickness |
|-------------|-------------------------|
| CVRL18D | 1.875 |
| CVRL23D | 2.375 |
| CVRL28D | 2.875 |
| CVRL33D | 3.375 |
| CVRL38D | 3.875 |
| CVRL43D | 4.375 |
| CVRL83D | 8.375 |

Metric Standard

| ITEM Number | Nominal plate thickness |
|-------------|-------------------------|
| CVRL56D | 56 |
| CVRL66D | 66 |
| CVRL76D | 76 |
| CVRL96D | 96 |

Inch Standard

| ITEM Number | Nominal plate thickness |
|-------------|-------------------------|
| CVR18D | 1.875 |
| CVR23D | 2.375 |
| CVR28D | 2.875 |
| CVR33D | 3.375 |
| CVR38D | 3.875 |
| CVR43D | 4.375 |
| CVR83D | 8.375 |

Metric Standard

| ITEM Number | Nominal plate thickness |
|-------------|-------------------------|
| CVR56D | 56 |
| CVR66D | 66 |
| CVR76D | 76 |
| CVR96D | 96 |

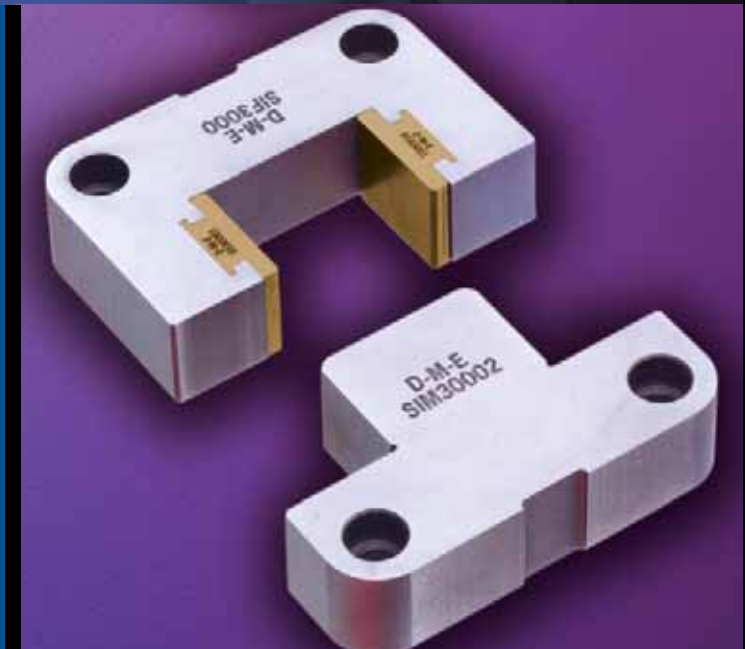
D-M-E CounterView Replacement Actuator Rods

| Inch Standard | |
|---------------|---------------------|
| ITEM Number | Round CV Rod Length |
| RCV23 | 0.5" |
| RCV28 | 1.0" |
| RCV33 | 1.5" |
| RCV38 | 2.0" |
| RCV43 | 2.5" |
| RCV83 | 6.5" |

| Metric Standard | |
|-----------------|---------------------|
| ITEM Number | Round CV Rod Length |
| RCV56 | 8.38mm |
| RCV66 | 18.39mm |
| RCV76 | 28.37mm |
| RCV96 | 48.38mm |

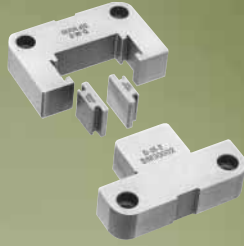
D-M-E Innovative Mold Interlocks

COST-EFFECTIVE
INTERCHANGEABLE
WEAR SURFACES



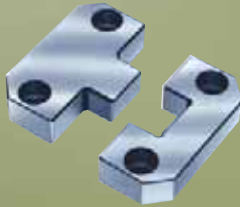
D-M-E Innovative Mold Interlocks

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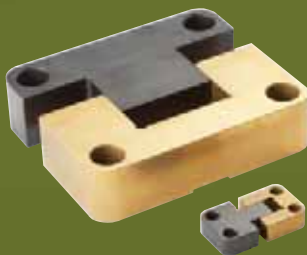
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Online Price Guide

Go to www.dme.net/prices for the latest pricing guide.

Mold Interlock Benefits

D-M-E Side Interlocks provide:

- Accurate alignment of mold halves
- Easy installation
- Easy and cost-effective maintenance
- Industry-compatible sizes

Installation

- Install four (4) IN2 Side Interlocks per mold (one per side)
- Install IN2 Side Interlocks on the Center Line of each side of the mold
- Replace IN2 Interchangeable Inserts as desired

Precision tolerancing, precision manufacturing means off-the-shelf interchangeability

D-M-E IN2™ Mold Interlocks are manufactured to exacting standards. Precise dimensional and geometrical tolerances ensure interchangeability. Interchangeability that no one else in the industry matches — *no one*. Precision tolerancing and manufacturing ensures that all D-M-E IN2 Mold Interlock components are interchangeable — off-the-shelf. Replace any D-M-E IN2 Mold Interlock component independently — no need to replace the entire set. *No one* else offers this level of interchangeability — no one.

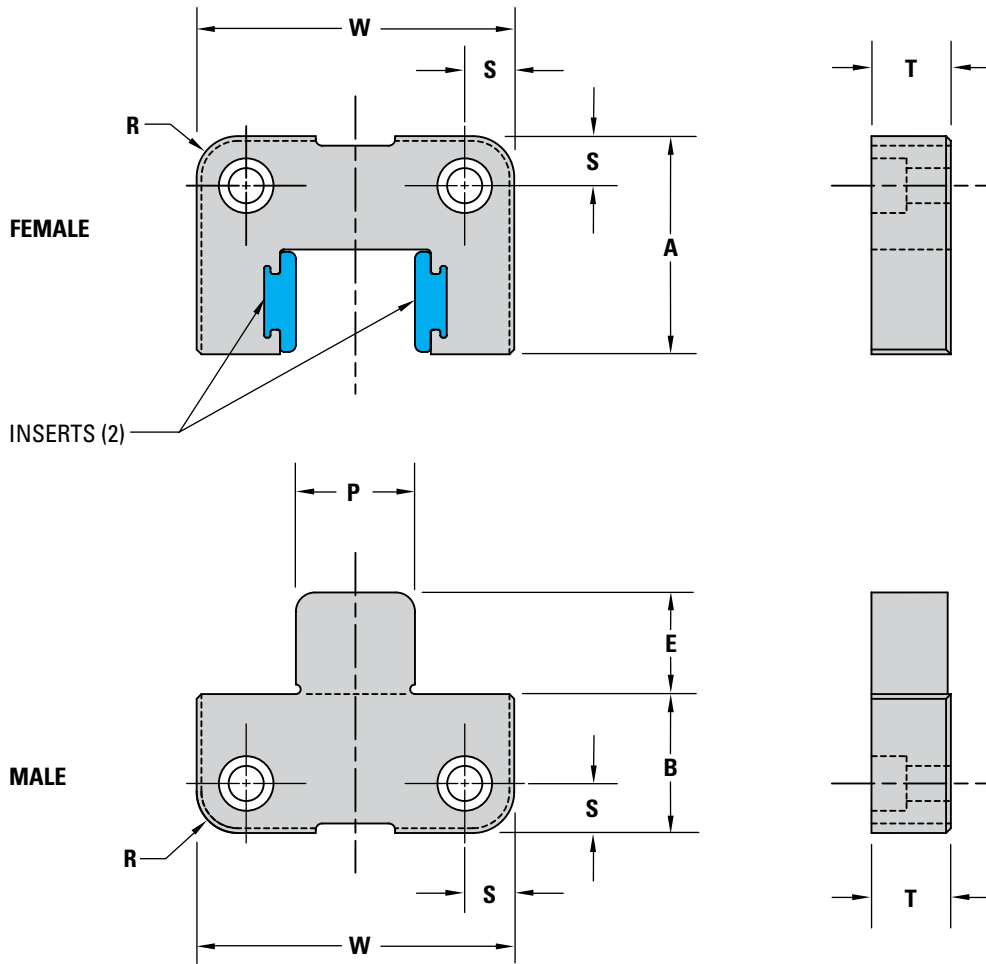
The D-M-E Standard of Interchangeable Interlock Components sets D-M-E apart from the industry.

And now...

D-M-E offers another innovation: **IN2 Innovative Interlocks with Interchangeable Inserts**. Interchangeable Inserts offer you simple, cost-effective maintenance. No need to replace the entire set when you use **IN2 Innovative Interlocks with Interchangeable Inserts**.



IN2 Side Interlocks



Side Interlock Dimensions

| W WIDTH | A HEIGHT FEMALE | B HEIGHT MALE | E INTERLOCK HEIGHT | P INTERLOCK WIDTH | T THICKNESS | R RADII | S SCREW LOCATIONS | SHCS SIZE |
|------------|-----------------------|---------------------|--------------------------|-------------------------|----------------|------------|-------------------------|--------------|
| 1.500 | .875 | .875 | .490 | .450 | .500 | .26 | .250 | #8-32 X .62 |
| 2.000 | 1.375 | .875 | .640 | .750 | .500 | .26 | .312 | #10-32 X .62 |
| 3.000 | 1.875 | .875 | .920 | 1.250 | .750 | .39 | .375 | 1/4-20 X .88 |

Side Interlock Ordering Information – SIS, SII

Material – Male Interlock: High-Speed Tool Steel **Hardness:** 61-65 HRC
Material – Interlock Inserts: Graphitic Tool Steel **Hardness:** 48-52 HRC

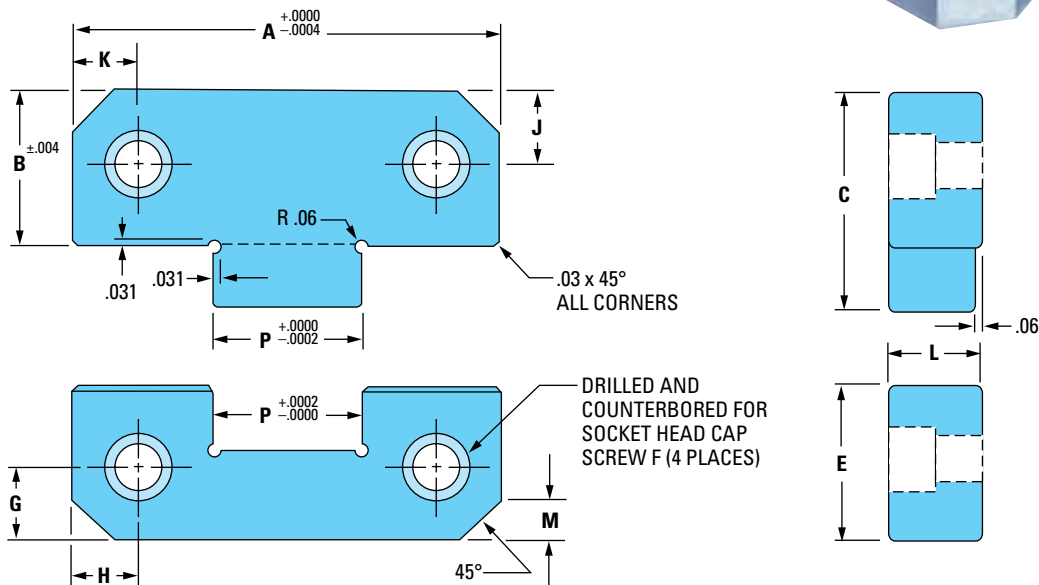
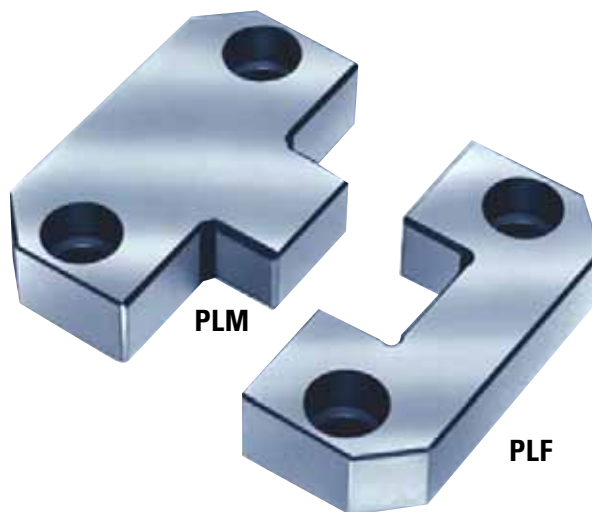
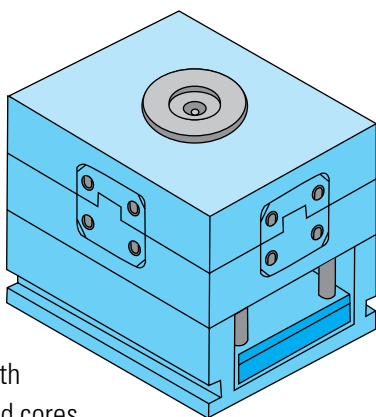
| INTERLOCK SET* ITEM NUMBER | W INTERLOCK WIDTH | REPLACEMENT INTERCHANGEABLE INSERTS** ITEM NUMBER |
|----------------------------------|-------------------------|---|
| SIS150023 | 1.500 | SII15003 |
| SIS200023 | 2.000 | SII20003 |
| SIS300023 | 3.000 | SII30003 |

*Sets include one (1) female, one (1) male, two (2) inserts, four (4) SHCS.

**Replacement Interchangeable Inserts are sold as pairs.

Straight-Side Interlocks

- Provides positive alignment for molds with interlocking cavities and cores



NOTES:

1. Recommend four (4) per mold.
2. Mount on centerline on all four sides to avoid problems with heat expansion.

Straight-Side Interlocks – PLM, PLF

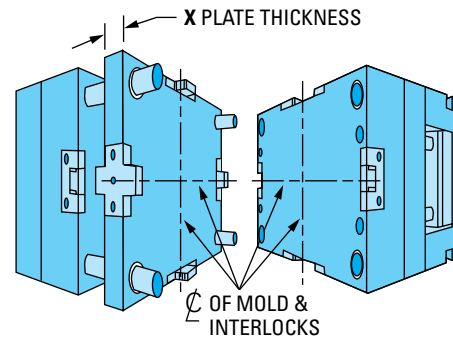
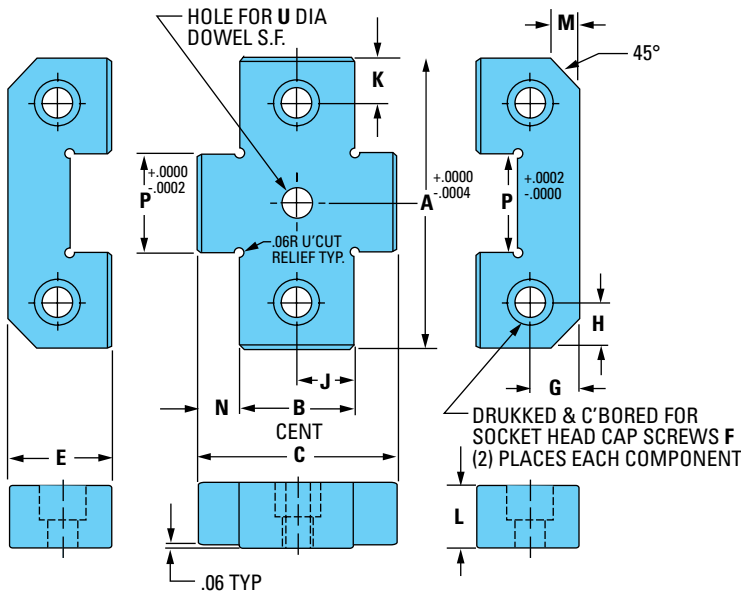
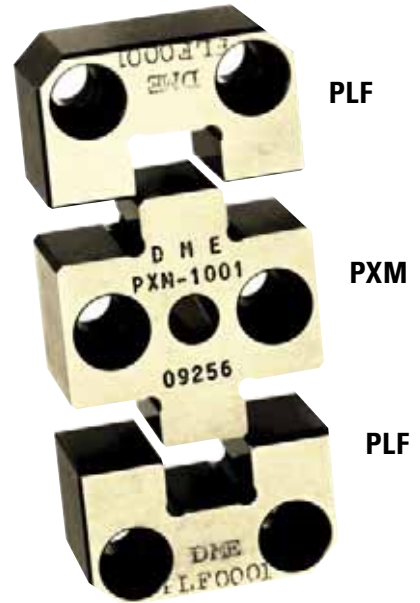
Material: 8620 Steel-Carburized, Hardened and Ground **Hardness:** PLM: 50-55 HRC, PLF: 55-60 HRC

| ITEM NUMBER | A NOMINAL | B | C | P NOMINAL | E | F* | G | H | J | K | L | M |
|-------------|-----------|-------|-------|-----------|-------|----------------|------|------|------|------|-------|-----|
| PLM-0001 | 1.5000 | .870 | 1.18 | .5000 | .870 | 1/4-20 X 3/4 | .281 | .281 | .437 | .281 | .620 | .19 |
| PLF-0001 | | | | | | | | | | | | |
| PLM-0002 | 2.0000 | .870 | 1.18 | .6800 | .870 | 1/4-20 X 3/4 | .375 | .375 | .437 | .375 | .620 | .19 |
| PLF-0002 | | | | | | | | | | | | |
| PLM-0003 | 3.0000 | 1.360 | 1.910 | 1.0000 | 1.370 | 3/8-16 X 1 | .688 | .375 | .688 | .375 | .745 | .19 |
| PLF-0003 | | | | | | | | | | | | |
| PLM-0004 | 4.0000 | 1.870 | 2.640 | 1.3750 | 1.870 | 3/8-16 X 1 | .875 | .625 | .875 | .625 | .745 | .50 |
| PLF-0004 | | | | | | | | | | | | |
| PLM-0005 | 5.0000 | 1.870 | 2.640 | 1.7500 | 1.870 | 1/2-13 X 1 1/4 | .875 | .750 | .875 | .750 | 1.120 | .50 |
| PLF-0005 | | | | | | | | | | | | |

*(2) F-size S.H.C.S included with each interlock.

X-Style Straight-Side Interlocks

- Provides positive alignment between three adjacent plates when mold has two parting line openings, providing close alignment for interlock cavities and cores in stripper plate-type molds
- Used with AX-Series (floating plate) and X-Series (stripper plate) mold bases, as well as other mold bases with floating plates
- Interchangeable male PXM and female PLF details can be purchased individually



X-Style Straight-Side Interlocks – PLF, PXM

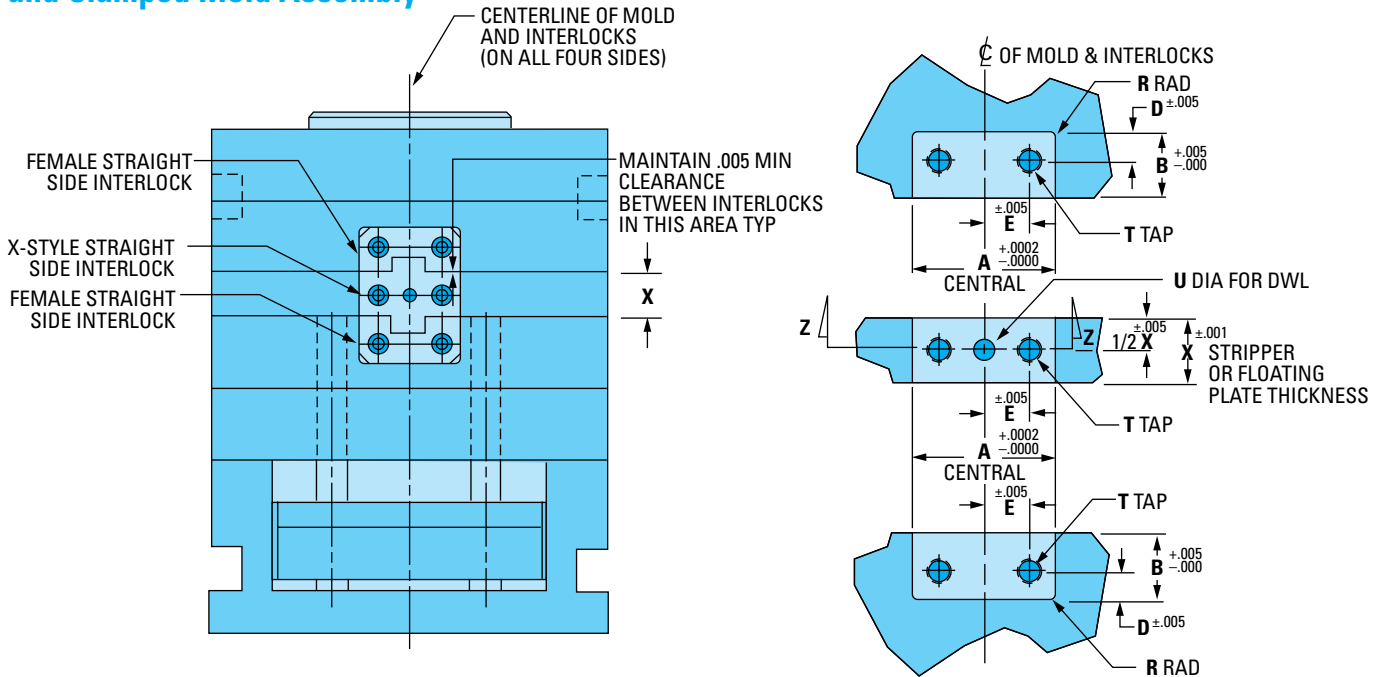
Material: AISI 8620 Steel-Carburized, Hardened and Ground **Hardness:** PXM: 50-55 HRC, PLF: 55-60 HRC

| ITEM NUMBER | | X PLATE THICKNESS | A NOMINAL | B | C | P NOMINAL | E | F | G | H | J | K | L | M | N | U DIA |
|-----------------------|----------|-------------------|-----------|-------|-------|-----------|-------|----------------|------|------|------|------|-------|-----|------|--------------------------------------|
| FEMALE | X-STYLE | | | | | | | | | | | | | | | |
| PLF-0001 (2 REQ'D) | PXM-1001 | .875 | 1.5000 | .850 | 1.470 | .5000 | .870 | 1/4-20 X 3/4 | .281 | .281 | .425 | .281 | .620 | .19 | .310 | .2500 (1/4 DIA X 1" LG DWL) |
| | PXM-2001 | 1.375 | | 1.350 | 1.970 | | | | | | .675 | | | | | |
| PLF-0002 (2 REQ'D) | PXM-1002 | .875 | 2.0000 | .850 | 1.470 | .6800 | .870 | 1/4-20 X 3/4 | .375 | .375 | .425 | .375 | .620 | .19 | .310 | .2500 (1/4 DIA X 1" LG DWL) |
| | PXM-2002 | 1.375 | | 1.350 | 1.970 | | | | | | .675 | | | | | |
| PLF-0003 (2 REQ'D) | PXM-1003 | .875 | 3.0000 | .850 | 1.950 | 1.0000 | 1.370 | 3/8-16 X 1 | .688 | .375 | .425 | .375 | .745 | .19 | .550 | .3750 (3/8 DIA X 1 1/4 LG DWL) |
| | PXM-2003 | 1.375 | | 1.350 | 2.450 | | | | | | .675 | | | | | |
| PLF-0004 (2 REQ'D) | PXM-2004 | 1.375 | 4.0000 | 1.350 | 2.890 | 1.3750 | 1.870 | 3/8-16 X 1 | .875 | .625 | .675 | .625 | .745 | .50 | .770 | .3750 (3/8 DIA X 1 1/4 LG DWL) |
| | PXM-3004 | 1.875 | | 1.850 | 3.390 | | | | | | .925 | | | | | |
| PLF-0005 (2 REQ'D) | PXM-2005 | 1.375 | 5.0000 | 1.350 | 2.890 | 1.7500 | 1.870 | 1/2-13 X 1 1/4 | .875 | .750 | .675 | .750 | 1.120 | .50 | .770 | .5000 (1/2 DIA X 2" LG DWL) |
| | PXM-3005 | 1.875 | | 1.850 | 3.390 | | | | | | .925 | | | | | |

NOTE: (2) socket head cap screws and (1) dowel of the size and length indicated in the chart are included with each X-Style interlock. Additionally, (2) socket head cap screws of the size and length indicated in the chart are included with each female interlock.

X-Style Straight-Side Interlocks

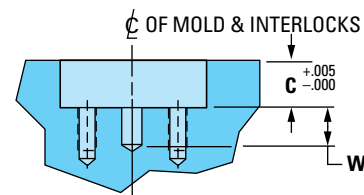
Basic Dimensions for Machining Pockets for X-Style and Female Interlocks on Centerlines of the Closed and Clamped Mold Assembly



The D-M-E X-Style straight-side interlocks are designed for use on molds with floating plates when the two parting lines must be closely aligned with each other. The X-Style straight-side interlocks are designed to be used, and to mate with two of the equivalent size D-M-E female straight-side interlocks. The X-Style interlocks are typically used on "X" and "AX" series mold bases, as well as other mold bases with floating plates.

Typical application is for use on a mold base with a stripper or floating plate. (4) X-Style interlocks and (8) female interlocks are used per mold assembly. One set is used on centerline of each end and one set on centerline of each side.

VIEW OF POCKET ON CENTERLINE OF MOLD

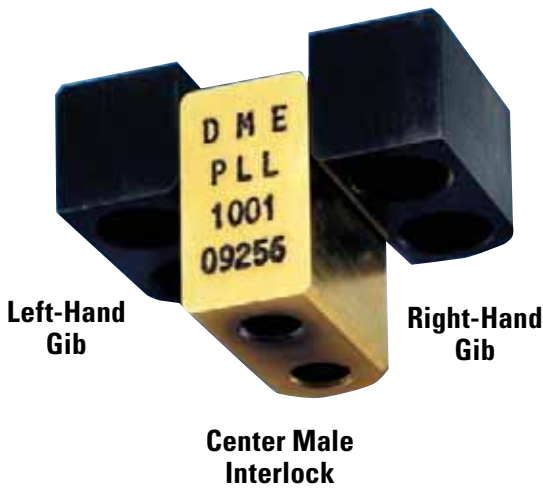


Moldmaker to adjust fit to suit as needed for specific application. Please contact D-M-E for complete installation instructions for the X-Style Interlocks.

| ITEM NUMBER | | X PLATE THICKNESS | A CENT | B | C | D | E | T TAP | Ø U | W | R RAD |
|-----------------------|----------|-------------------|--------|-------|-------|------|-------|--|-----------------------------------|------|-------|
| FEMALE | X-STYLE | | | | | | | | | | |
| PLF-0001 (2 REQ'D) | PXM-1001 | .875 | 1.5000 | .875 | .625 | .281 | .469 | 1/4-20 UNC X .56 DEEP (1/4-20 X 3/4 LG S.H.C.S.) | .2500 (1/4 DIA X 1" LG DWL) | .50 | .12 |
| | PXM-2001 | 1.375 | | | | | | | | | |
| PLF-0002 (2 REQ'D) | PXM-1002 | .875 | 2.0000 | .875 | .625 | .375 | .625 | 1/4-20 UNC X .56 DEEP (1/4-20 X 3/4 LG S.H.C.S.) | .2500 (1/4 DIA X 1" LG DWL) | .50 | .12 |
| | PXM-2002 | 1.375 | | | | | | | | | |
| PLF-0003 (2 REQ'D) | PXM-1003 | .875 | 3.0000 | 1.375 | .750 | .688 | 1.125 | 3/8-16 UNC X .88 DEEP (3/8-16 X 1" LG S.H.C.S.) | .3750 (3/8 DIA X 1 1/4 LG DWL) | .62 | .12 |
| | PXM-2003 | 1.375 | | | | | | | | | |
| PLF-0004 (2 REQ'D) | PXM-2004 | 1.375 | 4.0000 | 1.875 | .750 | .875 | 1.375 | 3/8-16 UNC X .88 DEEP (3/8-16 X 1" LG S.H.C.S.) | .3750 (3/8 DIA X 1 1/4 LG DWL) | .62 | .38 |
| | PXM-3004 | 1.875 | | | | | | | | | |
| PLF-0005 (2 REQ'D) | PXM-2005 | 1.375 | 5.0000 | 1.875 | 1.125 | .875 | 1.750 | 1/2-13 UNC X 1.00 DEEP (1/2-13 X 1 1/4 LG S.H.C.S.) | .5000 (1/2 DIA X 2" LG DWL) | 1.00 | .38 |
| | PXM-3005 | 1.875 | | | | | | | | | |

NOTE: (2) socket head cap screws and (1) dowel of the size and length indicated in the chart are included with each X-Style interlock. Additionally, (2) socket head cap screws of the size and length indicated in the chart are included with each female interlock.

Parting Line Interlocks



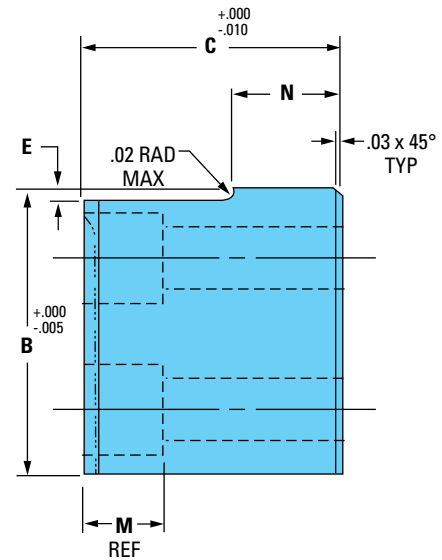
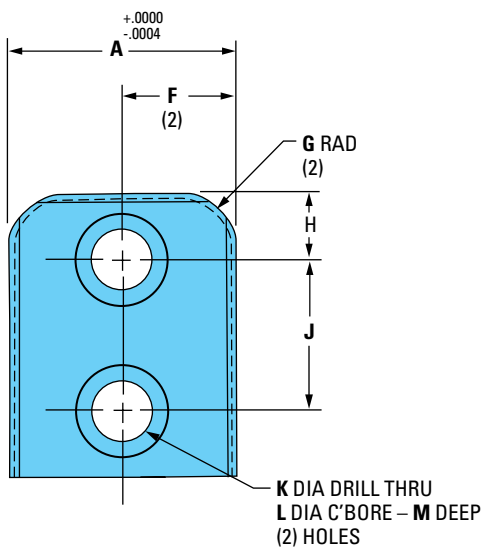
- For accurate alignment between mold halves
- All machining can be done from the parting line ... saving set-up time and machining costs
- Components can be purchased individually

Typical Application

The male interlock is typically installed in the ejector half of the mold. Left- and right-hand gibs are typically installed in the stationary half of the mold.

Mold machining and installation data are available. Contact D-M-E.

Center Male Interlock – PLL

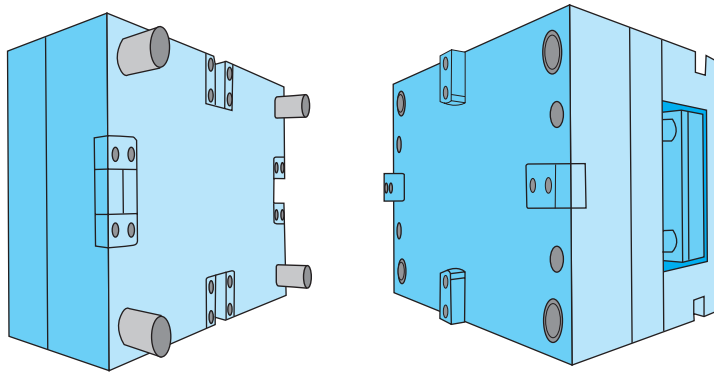


Material: S7 Steel, 52-58 HRC, Titanium Nitrided
80-85 HRC for wear and lubricity

| ITEM NUMBER | A WIDTH | B LENGTH | C | E | F | G | H | J | K | L | M | N |
|-------------|---------|----------|------|------|-------|-----|------|-------|------|------|-----|-----|
| PLL-1001 | .4998 | 1.000 | .85 | .030 | .250 | .19 | .250 | .500 | .219 | .344 | .22 | .36 |
| PLL-1002 | .9998 | 1.500 | 1.35 | .060 | .500 | .25 | .312 | .875 | .281 | .406 | .28 | .61 |
| PLL-1003 | 1.4998 | 2.000 | 1.72 | .060 | .750 | .38 | .438 | 1.125 | .406 | .594 | .41 | .73 |
| PLL-1004 | 1.9998 | 2.500 | 2.10 | .060 | 1.000 | .50 | .562 | 1.375 | .531 | .781 | .53 | .86 |

See next page for right- and left-hand gibs for parting line interlocks.

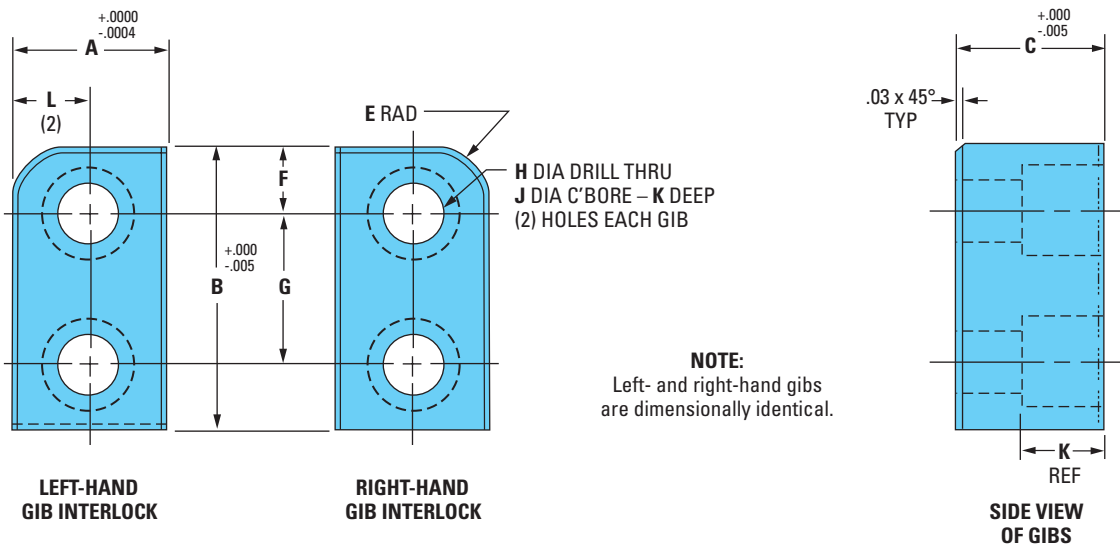
Parting Line Interlocks



NOTES:

1. Select center, right and left interlock components that are the same length (size) to make one set (e.g., PLL-1002, PLL-2002 and PLL-3002).
2. Four sets of interlocks should be used in each application. They must be installed on the center line of each side of the mold.
3. Each component includes two socket head cap screws.

Gibs (left and right) – PLL



Material: H-13 steel, 40-45 HRC, melanite coated for wear and lubricity

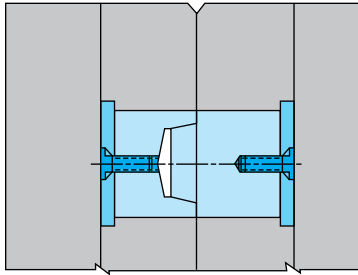
| ITEM NUMBER | | A WIDTH | B LENGTH | C | E | F | G | H | J | K | L |
|-------------------|--------------------|------------|-------------|-------|-----|------|-------|------|------|-----|------|
| LEFT-HAND GIBS | RIGHT-HAND GIBS | | | | | | | | | | |
| PLL-3001 | PLL-2001 | .5000 | 1.000 | .500 | .19 | .250 | .500 | .219 | .344 | .22 | .250 |
| PLL-3002 | PLL-2002 | .7500 | 1.500 | .750 | .25 | .312 | .875 | .281 | .406 | .28 | .375 |
| PLL-3003 | PLL-2003 | 1.0000 | 2.000 | 1.000 | .38 | .438 | 1.125 | .406 | .594 | .41 | .500 |
| PLL-3004 | PLL-2004 | 1.2500 | 2.500 | 1.250 | .50 | .562 | 1.375 | .531 | .781 | .53 | .625 |

See previous page for center male parting line interlock.

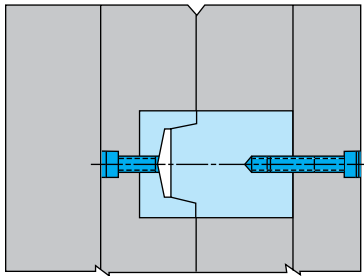
Tapered Interlocks (Round)



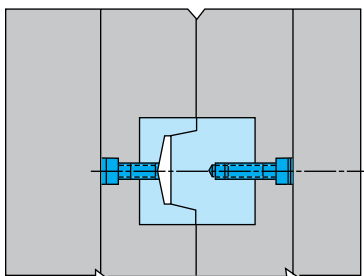
Through



Combination



Blind

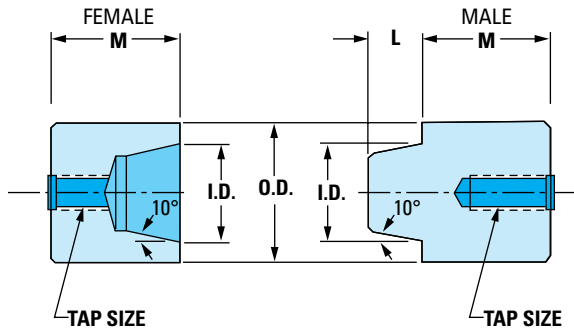


D-M-E Tapered Interlocks provide positive metal-to-metal mold registry to align mold halves, mold plates or individual cavities and cores. The larger sizes are generally used with large molds or plates. The 1/2 and 3/4 sizes are generally used with small molds or to align cavities and cores. At least two sets are recommended for small molds or inserts, four for medium-size molds and six or more for large molds.

To obtain accurate registry, the installation holes or pockets must be accurately aligned. For this reason, through construction is recommended because the two plates can be clamped together and line-bored. Combination construction can also be line-bored or at least partially line-bored to create a pilot for the blind pocket. Blind pocket construction in both plates is the most difficult installation. Close attention is required to make certain the two pockets line up.

There is stock allowance at the back of both male and female details to permit fitting at assembly to match a specific mold plate thickness or pocket depth. There is also additional stock allowance on the front face of the female detail. The interlocks may be installed to locate metal-to-metal on the tapered diameters by grinding the excess stock from the front face of the female until there is a slight clearance between the faces of the male and female when assembled. By precision fitting, the front face of the female detail can be ground so the interlocks will locate on both the tapered diameters and faces simultaneously.

Tapered Interlocks (Round)



Female Tapered Interlocks – FT (Round)

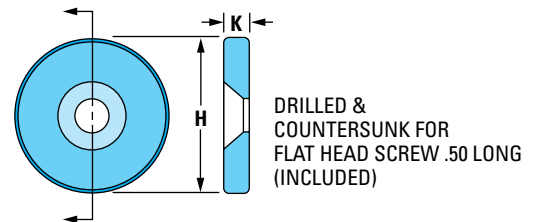
| O.D. $+0.000$ -0.005 | I.D. $+0.002$ -0.000 | TAP SIZE | M $+0.015$ $+0.020$ | ITEM NUMBER |
|---------------------------|---------------------------|----------|------------------------|-------------|
| 1/2 | 5/16 | 10-24 | 11/16 | FT04-11 |
| | | | 7/8 | FT04-14 |
| | | | 13/16 | FT04-19 |
| | | | 13/8 | FT04-22 |
| 3/4 | 1/2 | 1/4-20 | 11/16 | FT06-11 |
| | | | 7/8 | FT06-14 |
| | | | 13/16 | FT06-19 |
| | | | 13/8 | FT06-22 |
| 1" | 5/8 | 1/4-20 | 11/16 | FT08-11 |
| | | | 7/8 | FT08-14 |
| | | | 13/16 | FT08-19 |
| 1 1/2 | 1" | 5/16-18 | 13/8 | FT12-22 |
| | | | 15/8 | FT12-26 |
| | | | 1 1/8 | FT16-18 |
| 2" | 1 1/2 | 5/16-18 | 13/8 | FT16-22 |
| | | | 1 5/8 | FT16-26 |

Male Tapered Interlocks – MT (Round)

| O.D. $+0.000$ -0.005 | I.D. $+0.000$ -0.002 | L | TAP SIZE | M $+0.010$ $+0.015$ | ITEM NUMBER |
|---------------------------|---------------------------|-------|----------|------------------------|-------------|
| 1/2 | 5/16 | 1/4 | 10-24 | 11/16 | MT04-11 |
| | | | | 7/8 | MT04-14 |
| | | | | 13/16 | MT04-19 |
| | | | | 13/8 | MT04-22 |
| 3/4 | 1/2 | 9/32 | 1/4-20 | 11/16 | MT06-11 |
| | | | | 7/8 | MT06-14 |
| | | | | 13/16 | MT06-19 |
| | | | | 13/8 | MT06-22 |
| 1" | 5/8 | 11/32 | 1/4-20 | 11/16 | MT08-11 |
| | | | | 7/8 | MT08-14 |
| | | | | 13/16 | MT08-19 |
| 1 1/2 | 1" | 1/2 | 5/16-18 | 13/8 | MT08-22 |
| | | | | 1 1/8 | MT12-18 |
| | | | | 13/8 | MT12-22 |
| 2" | 1 1/2 | 1/2 | 5/16-18 | 15/8 | MT12-26 |
| | | | | 1 1/8 | MT16-18 |
| | | | | 13/8 | MT16-22 |
| | | | | 1 5/8 | MT16-26 |

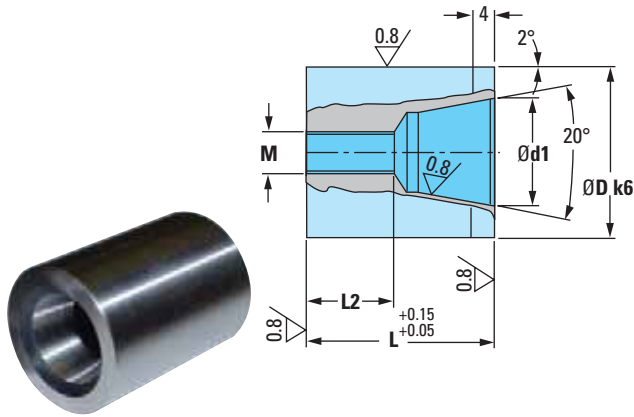
Shoulder Plates – SP (Must be ordered separately)

| MALE OR FEMALE O.D. | $\varnothing H$ | K $+0.000$ -0.002 | J | ITEM NUMBER |
|---------------------|-----------------|------------------------|---------|-------------|
| 1/2 | 11/16 | 3/16 | 10-24 | SP-04 |
| 3/4 | 1" | 3/16 | 1/4-20 | SP-06 |
| 1" | 13/16 | 3/16 | 1/4-20 | SP-08 |
| 1 1/2 | 1 11/16 | 1/4 | 5/16-18 | SP-12 |
| 2" | 2 3/16 | 1/4 | 5/16-18 | SP-16 |

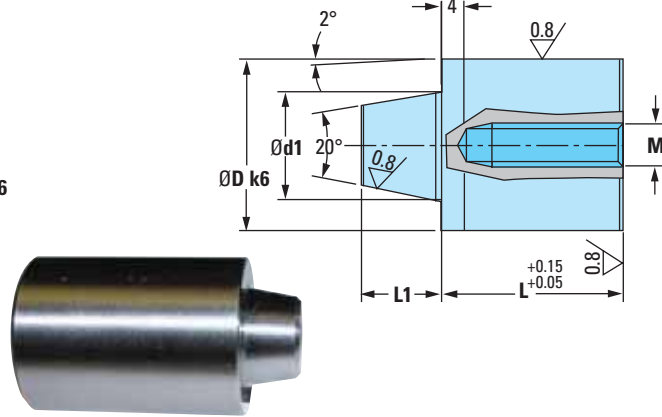


Tapered Interlocks (Round) – Metric

Tapered Interlocks – FT



Tapered Interlocks – MT



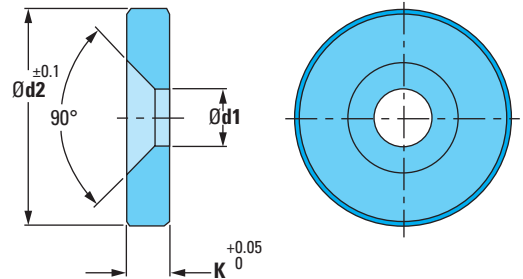
Material: DIN 1.7131 58-62 HRC

| REF | L | M | d1 | D | d2 |
|----------|----|----|----|----|----|
| FT 12-15 | 15 | M5 | 7 | 12 | 7 |
| FT 20-21 | 21 | M6 | 13 | 20 | 9 |
| FT 20-31 | 31 | | | | 19 |
| FT 25-21 | 21 | M6 | 16 | 25 | 8 |
| FT 25-31 | 31 | | | | 18 |
| FT 25-41 | 41 | | | | 28 |
| FT 32-30 | 30 | M8 | 20 | 32 | 14 |
| FT 32-50 | 50 | | | | 34 |
| FT 42-30 | 30 | M8 | 30 | 42 | 12 |
| FT 42-50 | 50 | | | | 32 |

Material: DIN 1.7131 58-62 HRC

| REF | L | L1 | M | d1 | D |
|----------|----|----|----|----|----|
| MT 12-15 | 15 | 7 | M5 | 7 | 12 |
| MT 20-21 | 21 | 11 | M6 | 13 | 20 |
| MT 20-31 | 31 | | | | |
| MT 25-21 | 21 | 12 | M6 | 16 | 25 |
| MT 25-31 | 31 | | | | |
| MT 25-41 | 41 | | | | |
| MT 32-30 | 30 | 15 | M8 | 20 | 32 |
| MT 32-50 | 50 | | | | |
| MT 42-30 | 30 | 17 | M8 | 30 | 42 |
| MT 42-50 | 50 | | | | |

Shoulder Plates for Tapered Interlocks – AGS

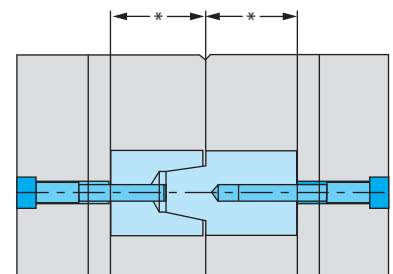
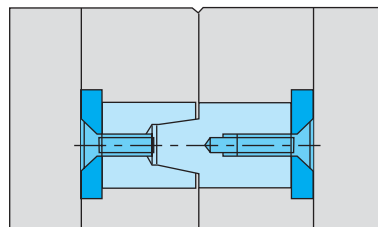


Material: DIN 1.7131 58-62 HRC

| REF | d1 | d2 | ^{+0.05} K 0 | FOR |
|--------|-----|----|-------------------------|-----------|
| AGS 12 | 5.5 | 16 | 5 | FT12 MT12 |
| AGS 20 | 6.6 | 25 | | FT20 MT20 |
| AGS 25 | 6.6 | 30 | | FT25 MT25 |
| AGS 32 | 9 | 37 | 6 | FT32 MT32 |
| AGS 42 | 9 | 47 | | FT42 MT42 |

AGS: Typical Application

*Measure actual height of assembled pair FT + MT and mill counterbore accordingly.

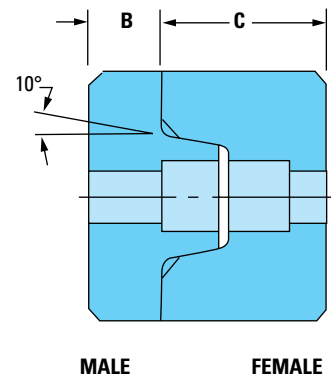
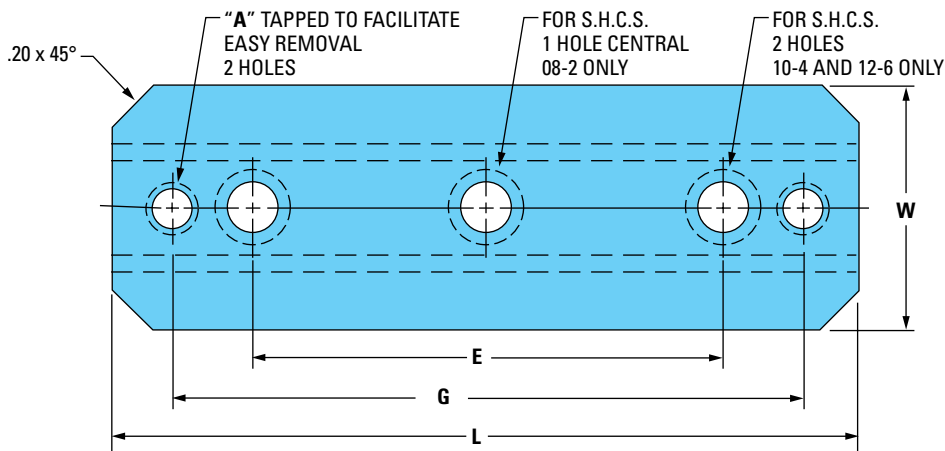


Tapered Interlocks (Rectangular)



D-M-E Standard Rectangular Tapered Interlocks provide positive, metal-to-metal alignment between mold or die halves, between plates or between individual cavities and cores. These Tapered Interlocks will maintain proper alignment while permitting thermal expansion between the mold or die halves. Mating sets are mounted in-line and/or perpendicular to one another (never parallel).

D-M-E Rectangular Tapered Interlocks are made of shock-resisting S-7 tool steel, and are hardened and ground to precision tolerances, which permit interchangeability.



Male Tapered Interlocks – MTR (Rectangular)

| E ±.005 | L ±.010 | W ^{+0.000} / _{-.001} | B ±.005 | A | G | USES S.H.C.S. | ITEM NUMBER |
|---------|---------|--|---------|---------|------|---------------|-------------|
| — | 1.980 | .999 | .312 | 1/4-20 | 1.50 | NO. 10-24 | MTR-08-2 |
| 2.500 | 3.980 | 1.249 | .375 | 1/4-20 | 3.38 | 1/4-20 | MTR-10-4 |
| 4.000 | 5.980 | 1.499 | .500 | 5/16-18 | 5.25 | 5/16-18 | MTR-12-6 |

Female Tapered Interlocks – FTR (Rectangular)

| E ±.005 | L ±.010 | W ^{+0.000} / _{-.001} | C ±.005 | A | G | USES S.H.C.S. | ITEM NUMBER |
|---------|---------|--|---------|---------|------|---------------|-------------|
| — | 1.980 | .999 | .69 | 1/4-20 | 1.50 | NO. 10-24 | FTR-08-2 |
| 2.500 | 3.980 | 1.249 | .87 | 1/4-20 | 3.38 | 1/4-20 | FTR-10-4 |
| 4.000 | 5.980 | 1.499 | 1.00 | 5/16-18 | 5.25 | 5/16-18 | FTR-12-6 |

NOTE: Male and female lengths must match.

Installation Guidelines

Each mounting pocket must be accurately aligned with the pocket for the mating interlock in the other half of the mold or die. The width of each pocket serves as a precision keyway to maintain the steadfast position of each interlock.

Each pocket must be flat and parallel to the parting line. The mating interlocks should be fitted with a slight preload to ensure metal-to-metal engagement.

The pocket lengths should be long enough to provide clearance.

Black and Gold Side Interlocks

Industry-Leading Interchangeability

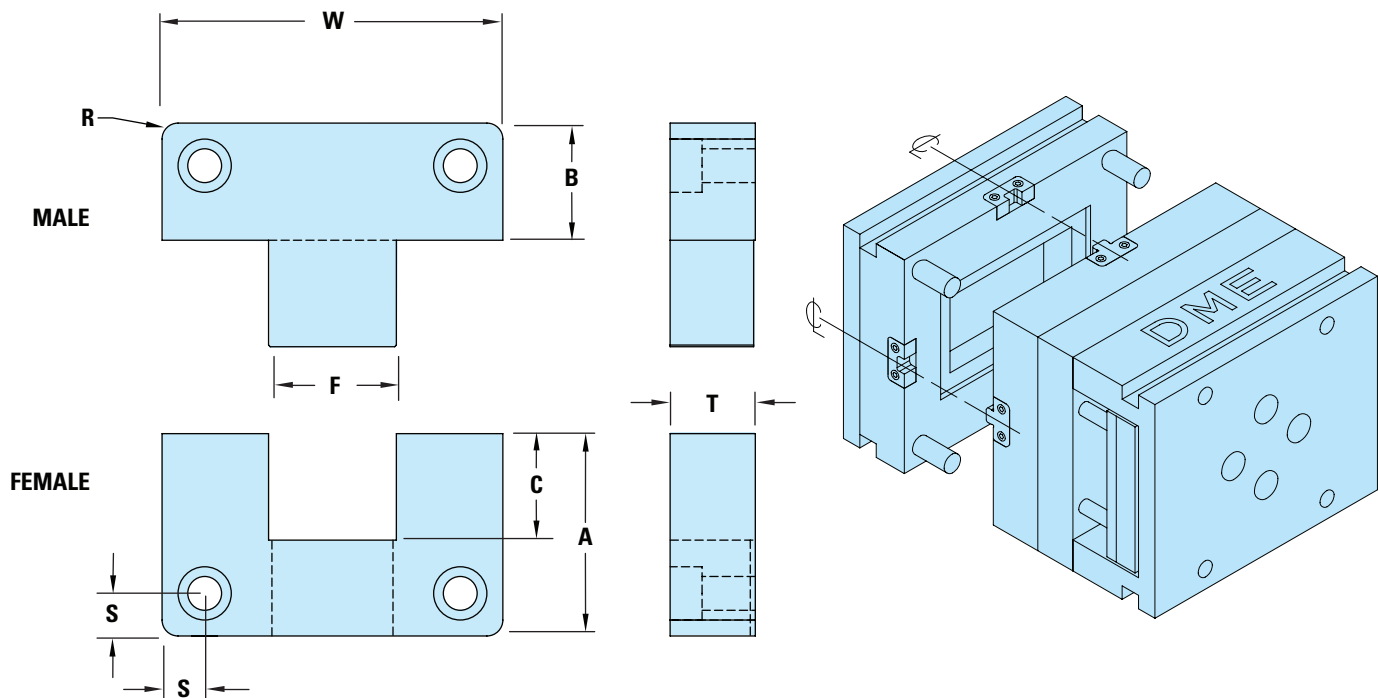
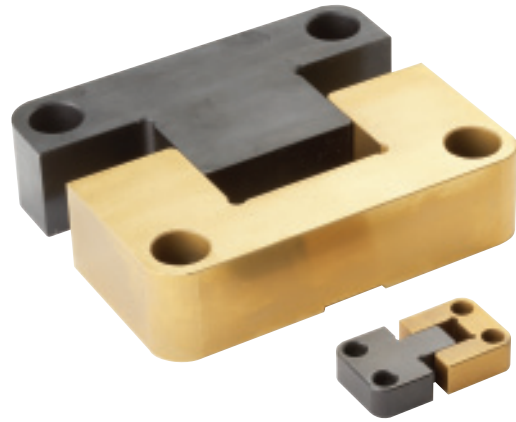
Thanks to precision manufacturing and precision tolerancing, every D-M-E mold interlock component can be replaced independently, eliminating the need to swap out an entire set.

D-M-E Side Interlocks provide:

- Accurate alignment of mold halves
- Easy installation
- Industry-compatible sizes

Installation

- Install four (4) Side Interlocks per mold (one per side)
- Install Side Interlocks on the Center Line of each side of the mold



Black and Gold Side Interlocks – BGS

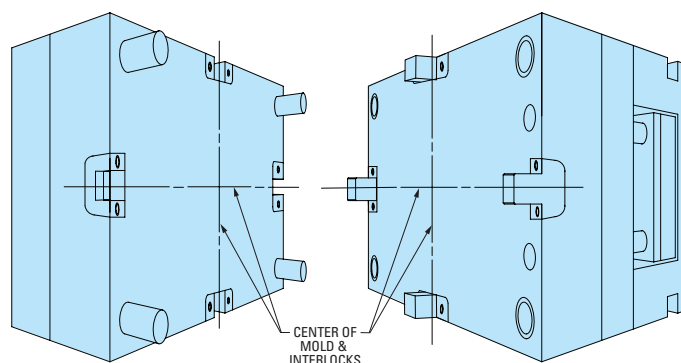
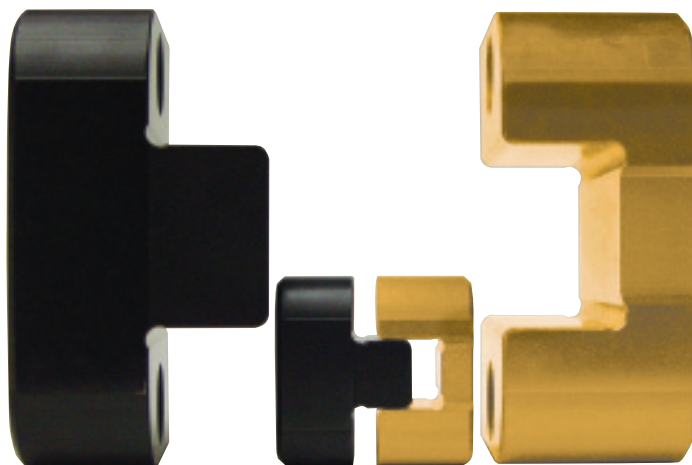
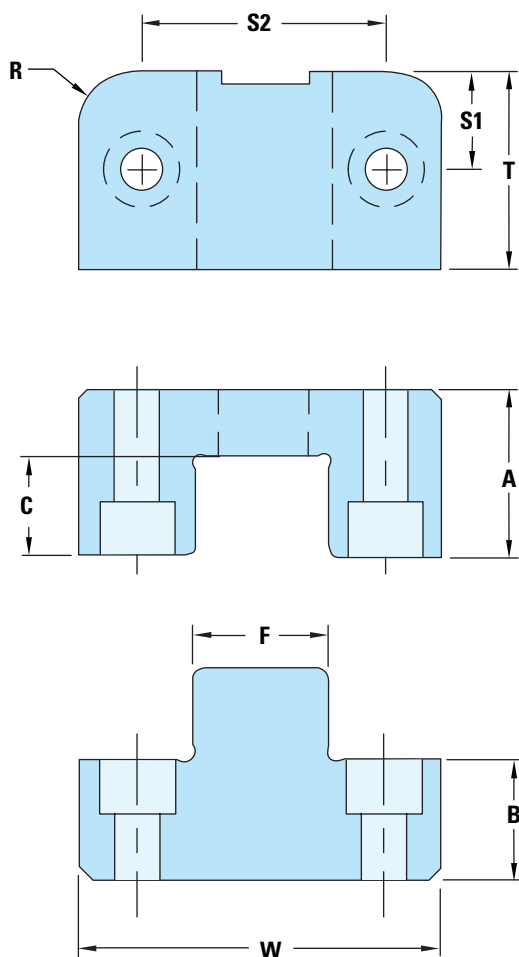
Female Interlock – Material: A2 Steel **Heat Treat:** Core Hardened to 58-62 HRC **Surface Treatment:** TiN – Titanium Nitride Coated

Male Interlock – Material: AISI H-13 Steel **Heat Treat:** 40-44 HRC **Surface Treatment:** Melonited (SBN)

| ITEM NUMBER | W +.0000 -.0004 | A +.000 -.002 | B +.000 -.002 | C | F .0001 / .0002 CLEARANCE PER SIDE | T +.000 -.002 | R POCKET RADIUS | S ±.01 | SHCS SIZE |
|-------------|-----------------------|---------------------|---------------------|------|---|---------------------|-----------------------|-----------|------------------|
| BGS1500 | 1.500 | .875 | .875 | .56 | .563 | .500 | .187 | .250 | #8-32 x 5/8" |
| BGS2000 | 2.000 | 1.375 | .875 | .66 | .750 | .500 | .187 | .312 | #10-32 x 5/8" |
| BGS3000 | 3.000 | 1.875 | .875 | 1.13 | 1.250 | .750 | .250 | .375 | 1/4"-20 x 3/4" |
| BGS4000 | 4.000 | 2.375 | 1.375 | 1.25 | 1.500 | 1.000 | .500 | .500 | 3/8"-16 x 1" |
| BGS5000 | 5.000 | 2.875 | 1.375 | 1.63 | 2.000 | 1.250 | .500 | .625 | 1/2"-13 x 1-1/4" |

NOTE: To order an individual Male interlock, add the suffix "M" to the item number.
To order an individual Female interlock, add the suffix "F" to the item number.

Black and Gold Top Interlocks



D-M-E Top Interlocks provide:

- Accurate alignment of mold halves
- Easy installation
- Industry-compatible sizes

Installation

- Install four (4) Top Interlocks per mold (one per side)
- Install Top Interlocks on the Center Line of each side of the mold

Black and Gold Top Interlocks – BGT

Female Interlock – Material: A2 Steel **Heat Treat:** Core Hardened to 58-62 HRC **Surface Treatment:** TiN – Titanium Nitride Coated

Male Interlock – Material: AISI H-13 Steel **Heat Treat:** 40-44 HRC **Surface Treatment:** Melonited (SBN)

| ITEM NUMBER | W +.0000 -.0004 | A +.000 -.002 | B +.000 -.002 | C ±.01 | F .0001 / .0002 CLEARANCE PER SIDE | T +.000 -.002 | R POCKET RADIUS | S1 ±.01 | S2 ±.01 | SHCS SIZES |
|-------------|-----------------------|---------------------|---------------------|-----------|---|---------------------|-----------------------|------------|------------|---|
| BGT1250 | 1.250 | .625 | .500 | .41 | .438 | .625 | .250 | .312 | .875 | M: #6-32 x 5/8" F: #6-32 x 3/4" |
| BGT1500 | 1.500 | .875 | .750 | .53 | .500 | .875 | .250 | .437 | 1.000 | M: #8-32 x 7/8" F: #8-32 x 1" |
| BGT2000 | 2.000 | 1.125 | .750 | .66 | .750 | 1.000 | .375 | .500 | 1.375 | M: #10-32 x 1" F: #10-32 x 1-1/4" |
| BGT3000 | 3.000 | 1.500 | .750 | .78 | 1.125 | 1.125 | .500 | .562 | 2.250 | M: 1/4-20 x 7/8" F: 1/4-20 x 1-3/4" |
| BGT3000S | 3.000 | 1.250 | .875 | .75 | 1.125 | 1.750 | .500 | .875 | 2.250 | M: 5/16-18 x 1-1/8" F: 5/16-18 x 1-5/8" |

NOTE: To order an individual Male interlock, add the suffix "M" to the item number.
To order an individual Female interlock, add the suffix "F" to the item number.

Black and Gold Side Interlocks - Metric

Industry-Leading Interchangeability

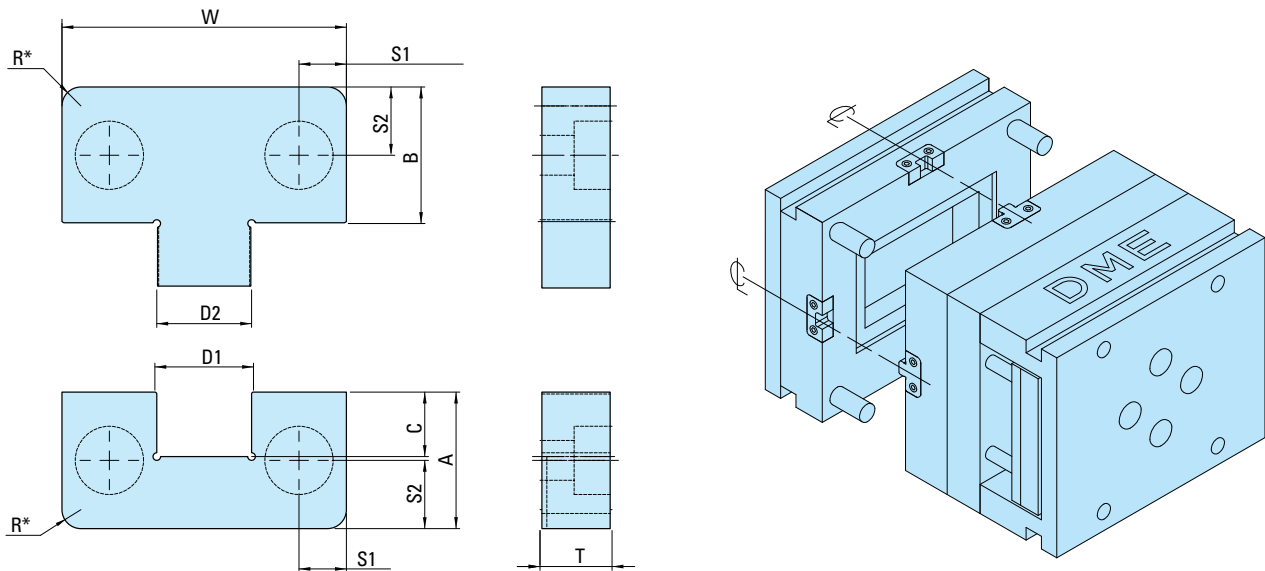
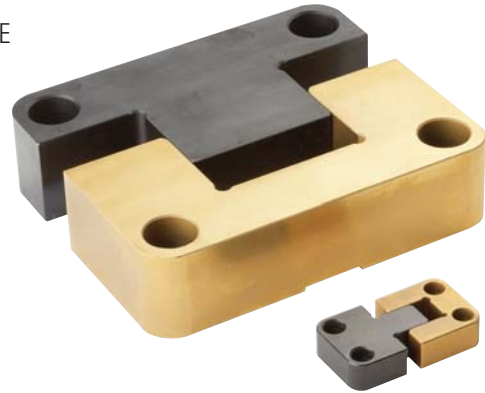
Thanks to precision manufacturing and precision tolerancing, every DME mold interlock component can be replaced independently, eliminating the need to swap out an entire set.

DME Side Interlocks provide:

- Accurate alignment of mold halves
- Easy installation
- Industry-compatible sizes

Installation

- Install four (4) Side Interlocks per mold (one per side)
- Install Side Interlocks on the Center Line of each side of the mold



* Part radius "R" is 1.00mm larger than recommended pocket radius.

Black and Gold Side Interlocks – BGS

Female Interlock – Material: D2 Steel **Heat Treat:** Core Hardened to 57-61 HRC **Surface Treatment:** TiN – Titanium Nitride Coated

Male Interlock – Material: AISI H-13 Steel **Heat Treat:** 40-44 HRC **Surface Treatment:** Melonite (SBN)

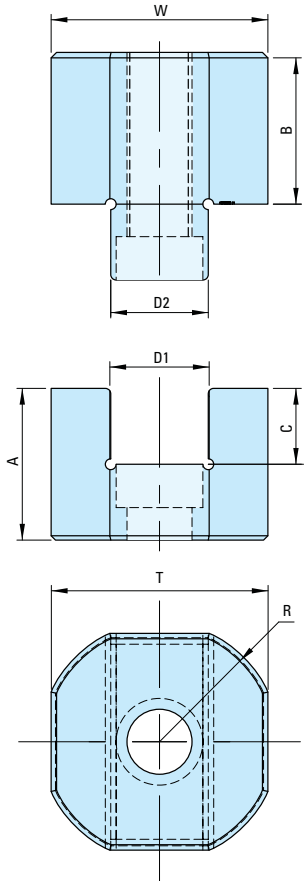
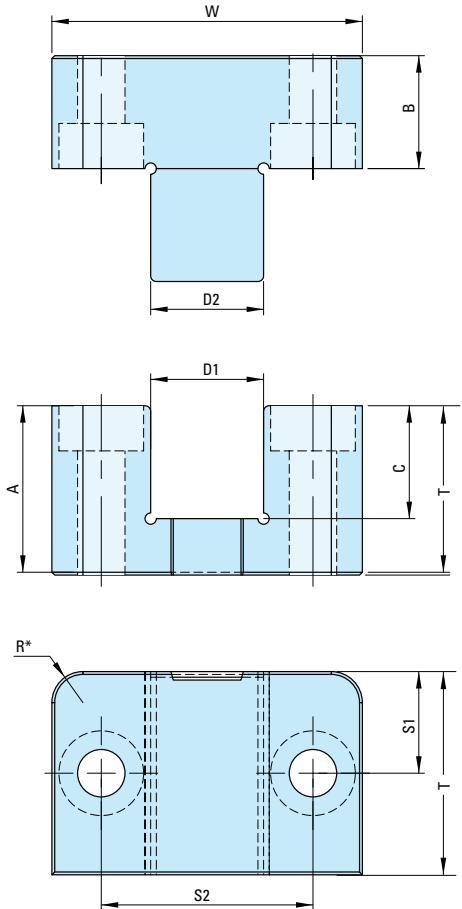
| ITEM NUMBER | T +0.0 -0.05 | W +0.0 -0.01 | A +0.0 -0.05 | B +0.0 -0.05 | C +0.5 +0.2 | D1 +0.005 +0.002 | D2 -0.005 -0.002 | R POCKET RADIUS +0/-0.5 | S1 ±0.2 | S2 ±0.2 | SHCS |
|-------------|--------------------|--------------------|--------------------|--------------------|-------------------|------------------------|------------------------|-------------------------------|------------|------------|-----------------|
| BGS05016 | 16.00 | 50.00 | 21.50 | 21.50 | 12.0 | 17.000 | 17.000 | 5.0 | 8.0 | 11.0 | M6-1.0 × 20 LG |
| BGS07519 | 19.00 | 75.00 | 36.00 | 36.00 | 17.0 | 25.000 | 25.000 | 5.0 | 12.5 | 18.0 | M10-1.5 × 25 LG |
| BGS10019 | 19.00 | 100.00 | 45.00 | 45.00 | 23.0 | 35.000 | 35.000 | 5.0 | 15.0 | 22.0 | M10-1.5 × 25 LG |
| BGS12525 | 25.00 | 125.00 | 45.00 | 45.00 | 23.0 | 35.000 | 35.000 | 5.0 | 20.5 | 22.0 | M10-1.5 × 30 LG |

NOTE: To order an individual Male interlock, add the suffix "M" to the item number.
To order an individual Female interlock, add the suffix "F" to the item number.

Black and Gold Top Interlocks - Metric

Industry-Leading Interchangeability

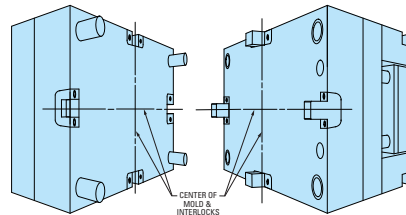
Thanks to precision manufacturing and precision tolerancing, every DME mold interlock component can be replaced independently, eliminating the need to swap out an entire set.



BGT02020

Installation

- Install four (4) Top Interlocks per mold (one per side)
- Install Top Interlocks on the Center Line of each side of the mold



DME Top Interlocks provide:

- Accurate alignment of mold halves
- Easy installation
- Industry-compatible sizes

Black and Gold Top Interlocks – BGT

Female Interlock – Material: D2 Steel **Heat Treat:** Core Hardened to 57-61 HRC **Surface Treatment:** TiN – Titanium Nitride Coated

Male Interlock – Material: AISI H-13 Steel **Heat Treat:** 40-44 HRC **Surface Treatment:** Melonite (SBN)

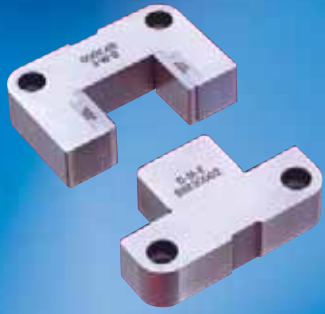
| ITEM NUMBER | T +0.00 -0.05 | W +0.00 -0.01 | A +0.00 -0.05 | B +0.00 -0.05 | C +0.5 +0.2 | D1 +0.005 +0.002 | D2 -0.005 -0.002 | R POCKET RADIUS +0/-0.5 | S1 ±0.2 | S2 ±0.2 | SHCS (F) | SHCS (M) |
|-------------|---------------------|---------------------|---------------------|---------------------|-------------------|------------------------|------------------------|-------------------------------|------------|------------|-------------|-------------|
| BGT02020 | 20.00 | 20.00 | 14.00 | 14.00 | 7.0 | 9.000 | 9.000 | 5.0 | – | – | M4 × 12 LG | M4 × 25 LG |
| BGT03526 | 26.00 | 35.00 | 25.00 | 15.00 | 16.0 | 11.000 | 11.000 | 8.0 | 13.0 | 23.0 | M5 × 30 LG | M5 × 20 LG |
| BGT04530 | 30.00 | 45.00 | 25.00 | 15.00 | 16.0 | 15.000 | 15.000 | 8.0 | 15.0 | 30.0 | M6 × 30 LG | M6 × 18 LG |
| BGT05536 | 36.00 | 55.00 | 30.00 | 20.00 | 20.0 | 20.000 | 20.000 | 8.0 | 18.0 | 37.5 | M8 × 35 LG | M8 × 25 LG |
| BGT07536 | 36.00 | 75.00 | 35.00 | 20.00 | 26.0 | 30.000 | 30.000 | 8.0 | 18.0 | 52.0 | M10 × 40 LG | M10 × 25 LG |
| BGT10045 | 45.00 | 100.00 | 60.00 | 20.00 | 41.0 | 40.000 | 40.000 | 8.0 | 22.5 | 70.0 | M10 × 65 LG | M10 × 25 LG |

NOTE: To order an individual Male interlock, add the suffix "M" to the item number.
To order an individual Female interlock, add the suffix "F" to the item number.

* Part radius "R" is 1.00mm larger than recommended pocket radius.

D-M-E Interlocks Provides Perfect Alignment For Long Mold Life

The D-M-E Family of Mold Interlocks | D-M-E Interlocks Provides Perfect Alignment For Long Mold Life

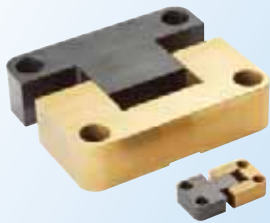


IN2 Interlocks

Accurate, reliable plate control is a key to long mold life. D-M-E plate control components provide critical control of alignment and enable smooth, repeatable mold action. Our extensive line of mold interlocks provides accurate alignment of mold halves and offer precise dimensional and geometrical tolerances.

IN2 Side Interlocks with Interchangeable Inserts

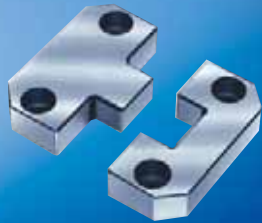
Replace only the wear surface of IN2 Interlocks. There's no need to replace the entire interlock set. It's easy and cost-effective maintenance that improves efficiency.



Black and Gold Top Interlocks and Side Interlocks

Black and Gold Top Interlocks and Side Interlocks

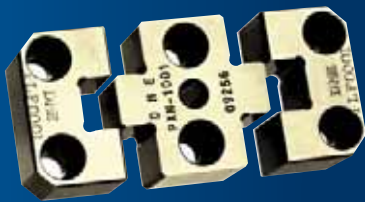
Available in five sizes, these interlocks are economical and easy to install.



Straight-Side Interlocks

Straight-Side Interlocks

A long-standing favorite of molders worldwide, D-M-E Straight-Side Interlocks, when used on all four sides of the centerline, eliminate heat expansion issues.



X-Style Straight-Side Interlocks

X-Style Straight-Side Interlocks

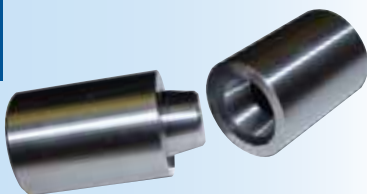
When your mold has two parting line openings, X-Style Straight-Side Interlocks provide positive alignment between three adjacent plates.



Parting Line Interlocks

Parting Line Interlocks

Available as a set or individual components, D-M-E Parting Line Interlocks enable all machining to be done from the parting line to save set-up time and costs.



Tapered Interlocks

Tapered Interlocks

Available in round and rectangular styles, D-M-E Tapered Interlocks provide positive, metal-to-metal alignment between mold or die halves, plates or individual cavities and cores.