



PRODUCT SUMMARY SHEET

Compression Limiters (CL):

- **CL Use:** For any plastic component that requires bolting. CL's are used to ensure that the polymer will not crack from the bolt tension but will still retain the plastic part to its mate.
- **Typical CL Application:** If the plastic is 10.0mm thick, then the CL will typically be 0.1mm taller (or nominal 10.1mm) than is the thickness of the plastic component.
- **How CL's are Used in Production:**
 - **Injection molded in CL:** Product will be designed with a closed slot to ensure no leakage or flashing on the interior of the CL. Design typically will include either exterior grooves or knurling to ensure a tight holding fit.
 - **After mold inserted CL:** Product will be designed with an open slot therefor ensuring a press fit once the CL installed. Can also provide headed CL's when necessary.
- **CL Shapes:**
 - Round
 - Square
 - Rectangular
 - Oval
 - Triangular
- **CL Length Tolerances:** tightest to +/-0.05mm
- **CL Features:**
 - Nearly all features that are required by a customer are applied during the production itself so there is no additional cost to the item. Only one-time low cost additional tooling is required.
 - Knurling
 - Grooves
 - Dimples
 - Holes
 - Slot Types – straight, wavy, special
 - Slot Opening – V open inside, V open outside, closed
 - Flanged/Headed
- **Typical CL Uses:**
 - Airbag assembly boxes
 - Electric modules of all kinds
 - Front bumpers (under the fascia)
 - Fuel pedal assembly
 - Transmission pans
 - Oil pans
 - Manifolds
 - Valve covers
 - Water pumps
 - Motor inlet attachments

- **CL Examples:**



Ground Sleeves (Hollow Alignment Dowels):

- **Markets Served:** Typically Powertrain companies
- **Advantages:**
 - Extremely tight diameter and length tolerances
 - Displace solid locator pins in a static load condition (significant weight and cost reduction) whereas the solid pin is simply being used to locate parts together that will not hold a load.
- **Examples:**
 - Motor/Transmission locators
 - Cylinder Head to Block Locators
 - Flywheel or Flex Plate to Block Locators
 - Multiple Transmission Mechanism Locators

- **Ground Sleeve Examples:**



Ground Solid Pins:

- **Markets Served:** Typically Powertrain companies
- **Use:** Powertrain areas with a dynamic load
- **Advantages:** High shear force without any movement off the located parts to each other
- **Applications:**
 - Motors & Transmissions
- **Ground Solid Pin Examples:**



Standard Slotted Spring Pins:

- **ASME B18.8.2-2000**
 - Fractional and Metric
 - Carbon
 - 302/304 (18-8) Stainless Steel
 - 420 Stainless Steel
 - Multiple coating options
- **ISO 8752-1998 Standard Duty Metric**
 - Carbon & Stainless (18-8)
- **ISO 13337-1997 Light Duty Metric**
 - Carbon & Stainless (18-8)



Standard Coil Pins

- **ASME B18.8.2-2000**
 - Fractional and Metric
 - Carbon
 - 302/304 (18-8) Stainless Steel
 - 420 Stainless Steel
 - Multiple coating options
- **ISO 8748 Stainless**
 - Medium and Heavy Duty
- **ISO 8750 Carbon**
 - Medium and Heavy Duty



Special Pins & Automotive Spring Pins (ASP):

- **Use:** There are multiple applications for ASP's. We design a variety of products to solve for a variety of applications. ASP's are typically used in auto-feed mechanisms so the slot designs are engineered to prevent interlocking.
- **Advantages/Applications:**
 - Flanged Pins for Hinge mechanisms
 - Displace more expensive Coil Pins where automatic insertion is involved. This is accomplished with specifically designed slots in the spring pins.
 - Displace more expensive Coil Pins that require plating. The plated Coil Pins offer inferior corrosion protection due to inner layers having no real plating.
 - Unique "tooth" designs, various material thicknesses, chamfers, etc.
- **Special Pin Examples:**



Tension Bushings:

- **Markets Served:** Typically agricultural, heavy truck, material handling, mining, conveyors, etc.
- **Use:**
 - Vogelsang Tension Bushings are cost effective bearings used as wear products to allow smooth pin/shaft rotation, and protect the surrounding structure of the rotating attachment such as a backhoe bucket
 - Ideal for high-load/low- RPM operations, in harsh, non-lubricated environments
- **Advantage:** Designed to replace solid steel (tubular) and case hardened parts, with ease of removal and replacement
- **Application Examples:**
 - Hydraulic cylinder rod/clevis ends, forklift forks, backhoe shovel, and skid steer attachments
- **Tension Bushing Examples:**
 - Styles include “wavy”, and “straight” slot configurations



For technical support or for in-field assistance please dial 732.364.0444

CL's & Ground Sleeves

Dale Stuban

Managing Director

x.7201

732.927.3040 Cell

dstuban@ VogelsangFastener.com

Tension Pins & Tension Bushings

Nick Penney

BDM – Tension Pins

x.7103

708.767.4719 Cell

npenny@ VogelsangFastener.com

Vogelsang Fastener Solutions, Inc.

1790 Swarthmore Ave

Lakewood, NJ 08701

732.364.0444 Phone

732.364.2979 Fax