

CUSTOM MULTI-DIE COLD HEADED PARTS



WCL's multi-die, cold heading sources extend the traditional limit of cold heading, making possible the production of uniquely formed one-piece cold headed parts.

Expensive screw machine parts and multi-piece assemblies can now be economically cold formed as a single piece. The cold forming of parts also improves strength and reliability.

Among the many features that can now be cold formed in a heading operation are:

- **Oversize heads**
- **Special head configurations - knurled, pancake, etc.**
- **Washer heads with oversize washers for spanning and load bearing**
- **Large diameter shoulders to replace separate sleeves and collars**
- **Multiple diameter or "stepped" shoulders**
- **Special pilot or lead points**
- **Double-end collar studs**
- **Gemini® studs**

Design guidance is available to integrate multi-part fasteners into single, cost-effective, one-piece cold headed parts.

SEMS SCREW AND WASHER ASSEMBLIES



Washers are essential to maintaining the integrity of many assemblies. Buying them preassembled to screw assures that they will not be dropped or forgotten in the assembly process. It also greatly simplifies automated production programs.

For most of its more than forty year history, WCL has been a major supplier of all types of quality sems screw and washer assemblies. WCL maintains extensive stocks of Phillips pan head and hex head screws assembled with popular anti-loosening tooth lock washers. The company also stocks a complete line of high performance Square Cone® washer sems assemblies. Many sizes of Phillips pan head tooth washer sems and Square Cone washer sems are stocked in stainless steel as well as carbon plated steel. WCL offers a wide variety of screws and strip resistant screws assembled to an equally wide variety of washers, including many styles of tooth washers, flat washers, conical washers, helical "split" washers and terminal washers.

Note: Gemini is a registered trademark of Illinois Tool Works Incorporated.

EXTERNAL AND INTERNAL LOCKWASHER SEMS

SCREW AND TOOTH WASHER ASSEMBLIES

IN STOCK ZINC PLATED AT WCL

WCL PRODUCT NUMBER	WCL PRODUCT NUMBER	WCL PRODUCT NUMBER
0256-0250 PPH INT	0632-0375 PPH INT	0832-0437 PPH EXT
0256-0375 PPH INT	0632-0375 PPH EXT	0832-0500 PPH INT
0440-0187 PPH INT	0632-0437 PPH INT	0832-0500 PPH EXT
0440-0187 PPH EXT	0632-0437 PPH EXT	0832-0562 PPH INT
0440-0250 PPH INT	0632-0500 PPH INT	0832-0625 PPH INT
0440-0250 PPH EXT	0632-0500 PPH EXT	0832-0750 PPH INT
0440-0312 PPH INT	0632-0562 PPH INT	0832-0875 PPH INT
0440-0312 PPH EXT	0632-0625 PPH INT	0832-1000 PPH INT
0440-0375 PPH INT	0632-0625 PPH EXT	0832-1250 PPH INT
0440-0375 PPH EXT	0632-0750 PPH INT	1024-0375 PPH INT
0440-0437 PPH INT	0632-0875 PPH INT	1024-0375 PPH EXT
0440-0500 PPH INT	0632-1000 PPH INT	1024-0500 PPH INT
0440-0500 PPH EXT	0632-1000 PPH EXT	1024-0500 PPH EXT
0440-0625 PPH INT	0632-1250 PPH INT	1032-0250 PPH INT
0440-1250 PPH EXT	0632-1250 PPH EXT	1032-0312 PPH INT
0440-1750 PPH INT	0832-0250 PPH INT	1032-0375-PPH INT
0632-0187 PPH INT	0832-0250 PPH EXT	1032-0375 PPH EXT
0632-0187 PPH EXT	0832-0312 PPH INT	1032-0437 PPH INT
0632-0250 PPH INT	0832-0312 PPH EXT	1032-0500 PPH INT
0632-0250 PPH EXT	0832-0375 PPH INT	1032-0500 PPH EXT
0632-0312 PPH INT	0832-0375 PPH EXT	1032-0625 PPH EXT
0632-0312 PPH EXT	0832-0437 PPH INT	1224-0750 PPH INT

STEEL HEX HEAD LOCKWASHER SEMS

IN STOCK ZINC PLATED AT WCL

WCL PRODUCT NUMBER	WCL PRODUCT NUMBER	WCL PRODUCT NUMBER
0440-0187 IHH EXT	1024-0625 IHH EXT	2520-0625 IHWH EXT
0632-0312 IHH EXT	1032-0375 SIHWH EXT	2520-0750 IHH EXT
0632-0375 IHWH EXT	1032-0750 IHH EXT	2520-1000 SIHH EXT
0832-1500 IHH EXT	1032-0875 IHH EXT	2520-1000 SIHH INT
1024-0500 IHH EXT	1224-0750 SIHH EXT	2520-2000 IHH EXT

STAINLESS STEEL PHILLIPS PAN HEAD

LOCKWASHER SEMS

IN STOCK AT WCL

WCL PRODUCT NUMBER	WCL PRODUCT NUMBER	WCL PRODUCT NUMBER
0440-0250 PPH INT	0632-0187 PPH INT	0632-0500 PPH EXT
0440-0312 PPH EXT	0632-0250 PPH EXT	0832-0375 PPH EXT
0440-0375 PPH EXT	0632-0312 PPH EXT	0832-0500 PPH EXT
0440-0375 PPH INT	0632-0375 PPH EXT	

Example: 0632-0187 PPH INT SS = 6-32x3/16 Phillips Pan Head Internal Lockwasher Stainless Steel

Note: EXT = External tooth lockwasher

INT = Internal tooth lockwasher

Other finishes such as Black Zinc, Zinc and Yellow, etc. may be in stock.