

Birtcher offers a complete line of Printed Circuit Board (PCB) guides and retainers. In order to simplify the selection process, Guides and Retainers have been placed into three groups based upon performance and cost considerations. Should a standard catalog item not meet your needs, contact our application engineers to discuss a custom solution.

Group 1 – PCB-Tainer™

This group of card guides uses the inherent spring force to captivate circuit cards during shock and vibration. Most economical.

Group 2 – Lok-Tainer®

Zero insertion force with high clamping capability insures circuit cards will not be affected due to heavy shock and vibration conditions. Excellent heat transfer ability provides low junction temperature for most military applications.

Group 3 – Wedge-Lok®

This group is built for the most demanding applications. (Shipboard, Airborne or Space). Extremely high clamping force provides excellent vibration and shock resistance as well as exceptional heat transfer ability.

Material and Finish Selection

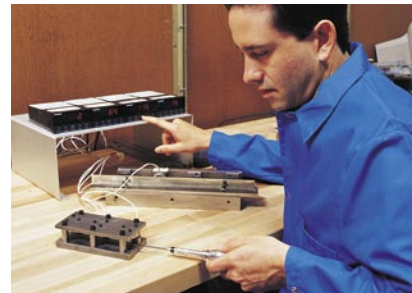
PCB-Tainers are available in BeCu, heat treated BeCu, and stainless steel. See page 85 for various finishes for BeCu only.

Lok-Tainers are available in steel and BeCu.

Wedge-Loks are constructed of Aluminum with finishes listed on page 85.

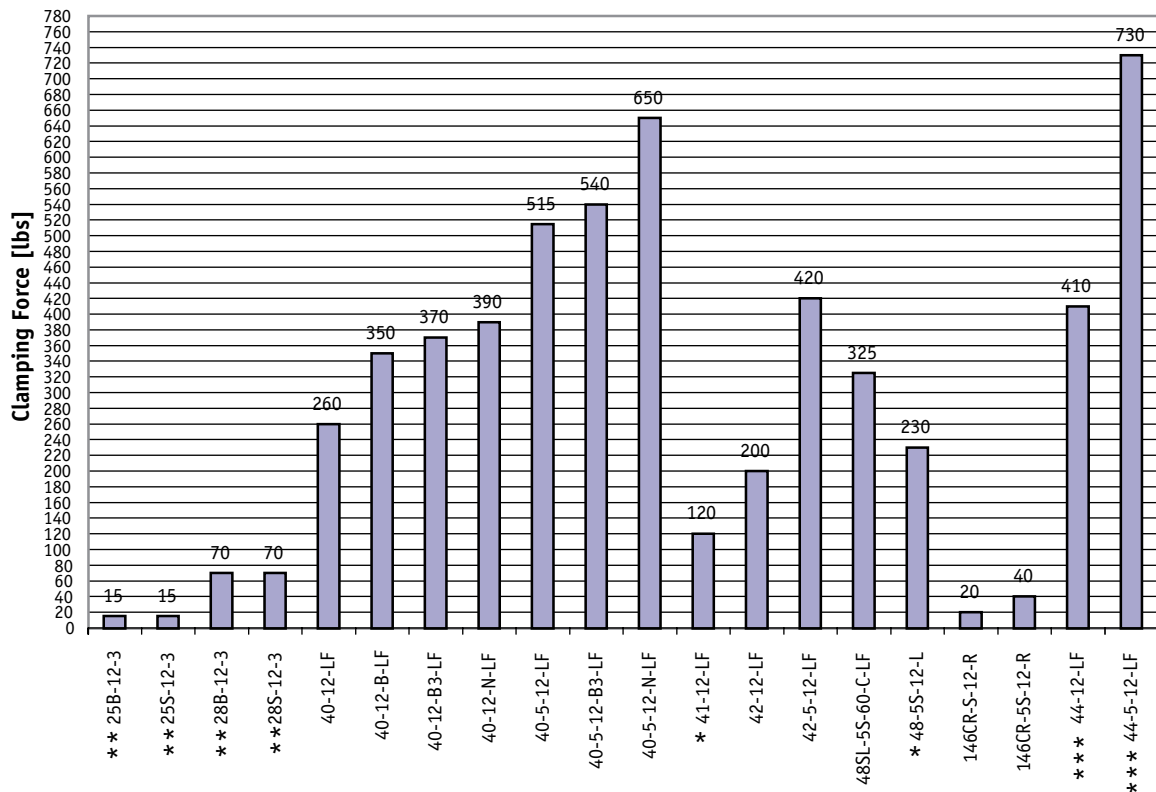
Typical Expected Performance Levels- Clamping Force

The total clamping force and the force distribution along the guide is an important consideration when selecting the proper guide. Figure 1. shows the clamping force (perpendicular to guides long axis) upon first actuation. All guides were torqued to the recommended value of 115 in-oz unless otherwise indicated. Values are for a single guide. All surfaces were cleaned with alcohol and no lubricants were used. Five-piece wedge-loks provide more force more evenly than three-piece wedge-loks. The performance of screw actuated guides will degrade with subsequent actuations due to normal thread wear. Lever actuated guides are sensitive to board thickness and/or slot width variation (see Figure. 3) whereas screw actuated guides provide a constant force over a wider operating range.



Performance data is for reference use only. Manufacturing variability, test conditions, and environmental conditions may affect results.

Figure 1. Clamping Force



* Torqued to 64 in-oz due to reduced diameter screw.

** Torqued to 25 in-oz due to Lok-Tainer design.

*** Torqued to 16 in-lbs due to larger diameter screw.

Figure 2. Clamping Force vs. Applied Torque 40-5-12-LF

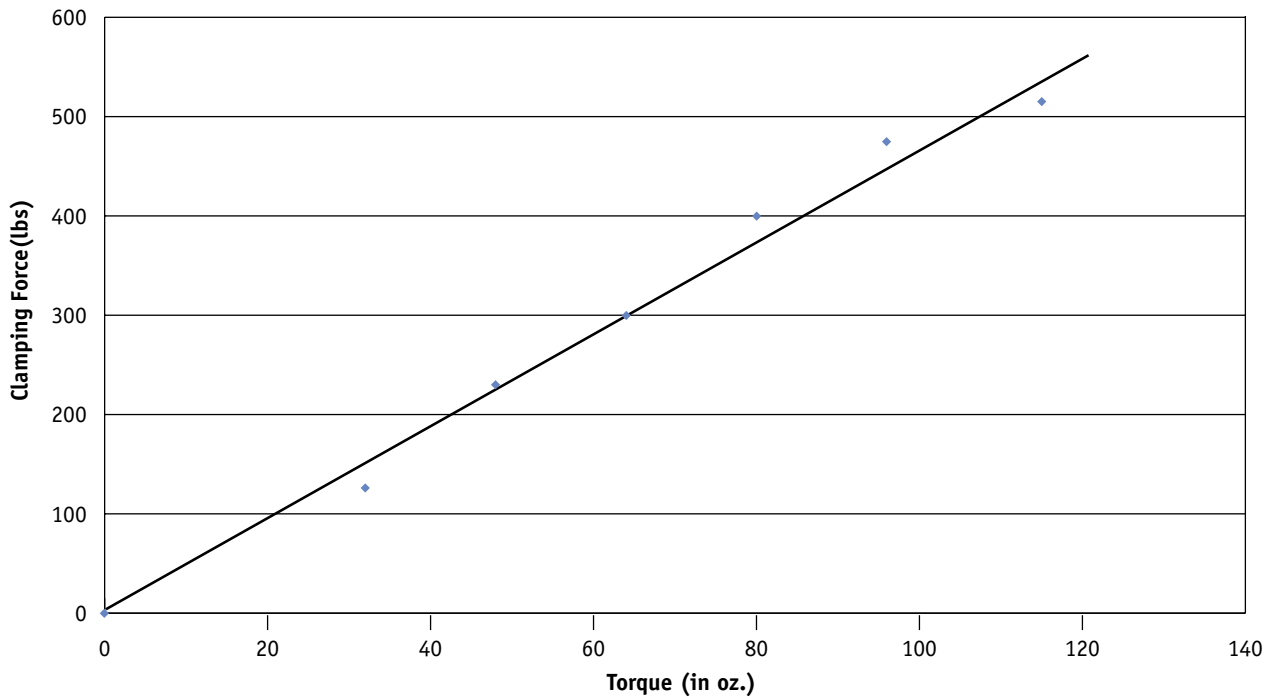


Figure 2. Shows the relationship between applied torque and clamping force output for the 40-5 series Wedge-Lok™.

Figure 3. Effect of Board Thickness Tolerance on Clamping Force for Lever-actuated Card Guides

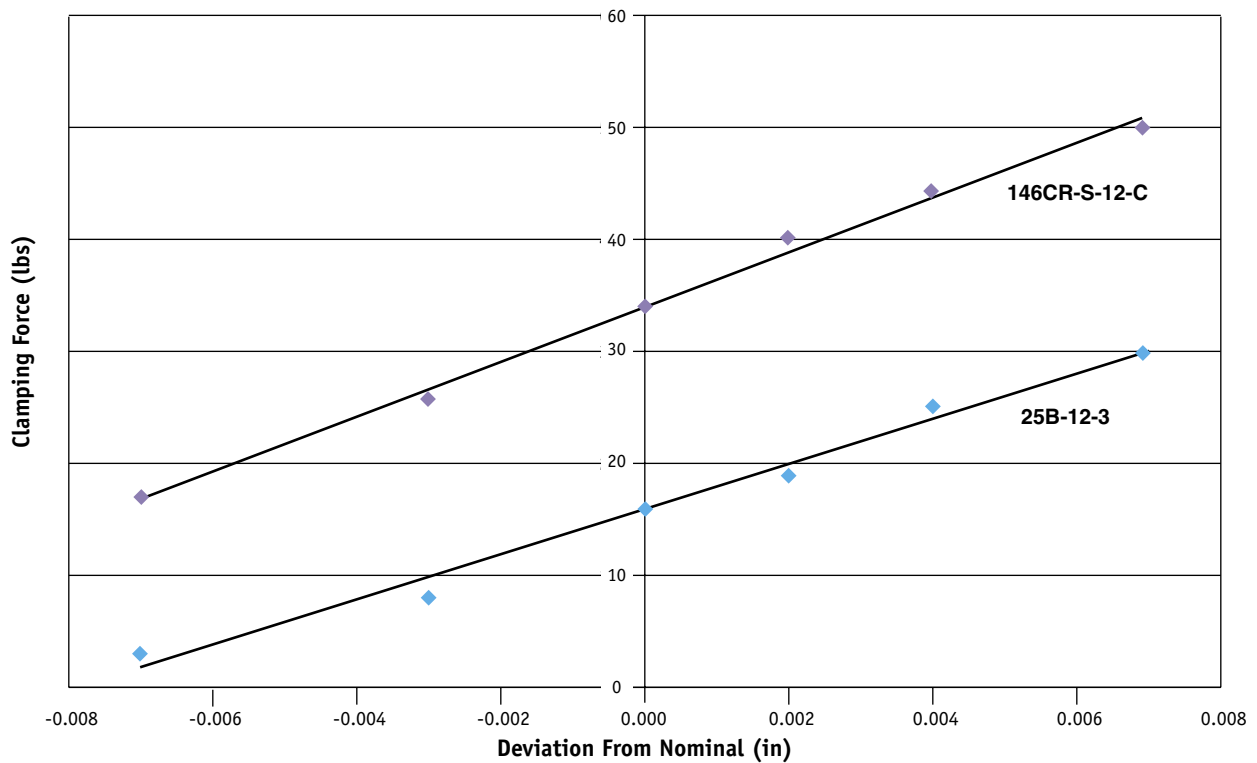


Figure 3. Illustrates how the clamping force varies with board thickness deviation from a nominal .063 board. A lever actuated Lok-Tainer® (25B-12-3) and Wedge-Lok™ (146CR-S-12-C) were measured.