# Assuring **Quality** in hardline goods from India.

With best in class in-process and preshipment inspection by Gateway2India Internal Auditor, as catalyst.

# Reliable & Efficient Coverage

- We cover whole of India, particularly North and West India.
- Senior experts do onsite work.
   They are adept at taking a 360 view of business and delivering beneficial and effective outcomes.
- Typically, we charge about US Dollar 500 per day.

#### Value to Evercraft in 2015

- Established product specification, inspection criteria and improved controls.
- Cutting pliers to cut 1.6 mm diameter
   1600 M Pa hard steel wire.
- Random sample from every induction hardened production lot to be Vicker tested at wire cutters.
- Cutting pliers to be of C-50 steel.
- Alteration in shop floor flow to prevent mixing of pliers with induction hardened wire cutters with those in which wire cutters are not induction hardened.

 Removed resistance in adjustable wrench roller movement. Start and end of roller thread made thicker to mitigate bending during hardening.
 Vendor eliminated thin edge shaded in black.

 Improved incoming procured material quality check by factory including roller hardness. Gauge which is used to check roller pitch.



Laser etching of pointer (on jaw) and measuring scale (on handle) of adjustable wrench made fault free. To root out laser etching quality issues, factory placed set-up register at laser etching station. When first piece is etched, its scale is checked with Vernier and supervisor signs off in register. Then etching operation proceeds further on commercial lot.



- During inspection of combination and flare nut wrenches established that gauge testing will be done on every piece in drawn random sample. It will not be limited to 3-5 pieces which undergo destructive testing. Emphasised need for Quality.
- Emphasised adhesiveness (peel-off), thickness and salt spray life of nickel chrome plating and oil coat.
- 2. Sought much tighter in-house, inprocess and pre-packaging quality checking by factory.
- 3. Deficiency in packaging being removed.

### Improvements during 2016 to 2020

- Driven by consistently diligent torque testing of adjustable wrenches during inspections, factory incorporated a "shape change" in both the movable and fixed jaws. A radius / arc is machined now instead of the earlier sharper angle. This new circular shape is imparting increased strength to the adjustable wrench, thereby improving its performance during torque testing. Failure risk is being controlled.
- The factory upgraded to a technologically superior, new full body heat treatment furnace at a separate, nearby location. Consistency of full body hardness has improved in all products. Induction hardening is still done at the original plant. This physical separation of the two processes has mitigated the risk of mixing induction hardened and not induction hardened cutting pliers.
- The factory upgraded to an advanced nickel chrome plating plant. Product finish has improved.

## Matters pending completion

- Cutting pliers of C-50 steel are yet to consistently reflect in Evercraft shipments.
   Factory's steel procurement is a mix of C-50 and 31CRV3.
- Varying body hardness is prevalent on same side of tool, even after grinding.
   Sometimes below range readings are on one side of tool but are in range on its other side.
- Instances of gauge test failure.
- Nickel chrome plating hanger mark in ring.
- Instances of poor in-line checking of visual finish i.e. scaling, dents, peel-off are there.
- Some packaging deficiencies do reappear.