



## **Non-Confidential Description of XSOF Polishing & QC**

### **Goal:**

The goal of polishing an end face of a fiber optic unit is to present the individual fiber faces of that unit as an ideal defect free surface.

### **Basic Process:**

Polishing at an XSOF entity is a multi-step process that follows approximately these steps:

- a diamond blade saw cut of the fibers near the ferrule end tip
- a course grinding step to bring ferrule material and fiber faces coplanar
- a mid-grade polishing step to remove surface defect larger than about 5um and minimize edge chipping
- a fine grade lapping step to bring most defects to sub 1um level
- a final buffing step using proprietary materials and pads mounted on often customized equipment.

At all times the work piece is held in an appropriate and often custom fabricated polishing jig.

The work piece is cleaned and inspected by the polishing operator at each step before going on to the next.

### **Final QC:**

All end faces are inspected according to XSOF standards that may be specific for the job or PN but all end faces are inspected at a minimum to 40X using a stereo microscope.

XSOF will apply its minimum standards in lieu of other specifications explicitly agreed to:

- no visible defect under 40X in the core
- no defect penetrating the cladding and interfering with the core on single fiber units
- if the end is a multi fiber bundle, we allow 2% broken or 2% of the total fiber core area occluded for a silica bundle and 5% for a borosilicate bundle

Other specifications and standards will be determined in collaboration with our customers.