

CHAPTER XI

Miscellaneous Abrasive Products
for the Tool Room*"Lightning" (Electro Coated) Metalite Cloth*

Lightning Electro Coating is a Behr-Manning process for improving coated abrasives. When applied to Metalite cloth, it provides the tool room with a most modern, scientific abrasive for all metal sanding—from fine polishing to fast, economical stock removal. This process brings out the full efficiency of the Alundum abrasive inasmuch as a powerful electric field stands the mineral grains pointed end up and evenly spaced from their neighbors. Naturally, a faster cutting, finer finishing, longer lasting surface is produced.

Lightning Metalite cloth is supplied in 50-yard Handy Rolls, in nine standard widths from $\frac{1}{2}$ " to $2\frac{1}{2}$ ", and also in sheets, 9" x 11". The Handy Roll is particularly convenient and economical for tool room use; any desired length may be quickly torn off to provide a straight strip with clean, sharp edges for sanding pins, shafts, arbors and for polishing fillets and die parts. Both roll and sheet forms are suitable for removing rust and scale, the particular choice depending upon the area to be sanded.

For all flat work, or for wrapping around a file, the 9" x 11" sheet is preferred by most machinists.

The backing in both forms is a superior cloth woven to exacting specifications and further prepared in the Behr-Manning Cloth Finishing Department. Later the finished

product receives additional special treatment to impart just the correct flexibility and yet provide ample body for severe use.

Although most frequently used dry, Lightning Metalite cloth lends itself to use with oil when the mechanic wishes to "float" the sanded particles from the work.

A complete grit range from #320 (very fine) to #24 (very coarse) is more than sufficient for all tool room requirements. Most shops can confine their stock to grits #180 and #150 (fine), #80 (medium) and #60 and #50 (coarse) and will find that practically every possible sanding and polishing operation can be handled by these grits. Special finishes, or heavier jobs of stock removal, are within the capacity of the other grit numbers and the proper selection may be made from the Lightning Metalite Cloth Sample Book which we shall be pleased to send gratis to any interested tool maker. Address your request to Behr-Manning Co., Troy, New York (a division of Norton Company).

Abrasive Specialties

Removal of burrs and the polishing of edges, channels, fillets and corners of dies, fixtures, molds and similar tools can readily be accomplished with the aid of Spirabands, Spirapoints, pencils and other abrasive specialties. These small, flexible abrasive tools make it possible to reach and clean odd-shaped recesses, "dead-end" holes, inaccessible areas, etc. Many production hours can be saved by their use.

India Oilstones

In the ordinary process of grinding cutting tools, a slight burr is often thrown up on the cutting edge. By the proper use of oilstones immediately following the grinding, the burrs are entirely eliminated and a firmer cutting edge is produced. As

a result, a smoother finish is possible, free from tool marks, and the tool stands up longer between grindings.

In tools used today, the steels have more or less of a tendency to crater on the surface just behind the cutting edge, as a result of excessive frictional load. The friction can be materially reduced by oilstoning such surfaces as are exposed to cratering and thereby prolonging the life of the cutting edge. This is a distinct advantage on lathe tools, milling cutters, twist drills, reamers and threading tools, like taps and die chasers.

In the case of milling cutters, reamers and other tools that rotate when in operation, the oilstone should always be used on the inside of the cutting edge so as not to disturb the original clearance.

In addition to the above applications, oilstones are useful in machine shops and tool rooms for the reaming of irregular shaped holes and the fitting of dies after hardening.

Oilstones used for carbon and high-speed steels must have certain characteristics. They must be hard enough to hold their shape under hard usage, but soft enough to cut freely. They must be sharp enough to produce the necessary amount of abrasion and tough enough so that the individual grains will break down only when they become dull and not before. These characteristics demand a fine balancing of grain, structure and bond. Aluminum oxide abrasive fabricated by the vitrified process produces oilstones having all of these very important characteristics.

Norton India (aluminum oxide) oilstones are particularly suited for general machine shop and tool room practice. They are available in three grits, fine, medium and coarse and in a large variety of sizes and shapes. A descriptive catalog of Norton India oilstones may be obtained by writing to Behr-Manning Co., Troy, New York (a division of Norton Company).

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*Oilstones, and various types
of coated abrasive products
used for metal sanding*

