

Akasel Fact Sheet

Napal Polishing Cloth

Updated January 2021


















Aka-Napal and Mag-Napal are soft, short napped polishing cloths, especially suited for final polishing with diamond abrasives of 1 μm and finer or for final oxide polishing.

The Napal cloth is used for final polishing of all materials. Due to its softness/high resilience, short polishing times should be used when edge retention is required.

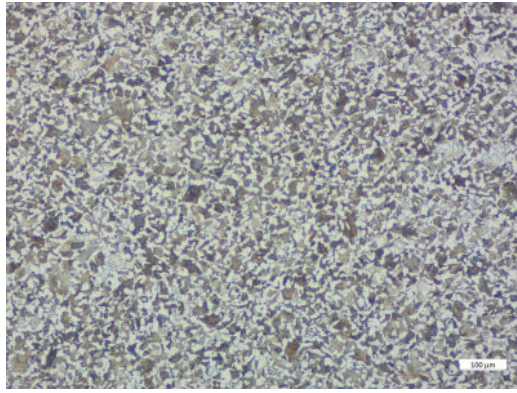
The short, soft nap, in combination with very fine-grained abrasives provides a perfect mirror-like finish, ready for the examination on the microscope.

Napal can be used for the final polishing step in many different preparation methods, e.g. for medium soft materials in combination with state-of-the-art composite grinding discs:

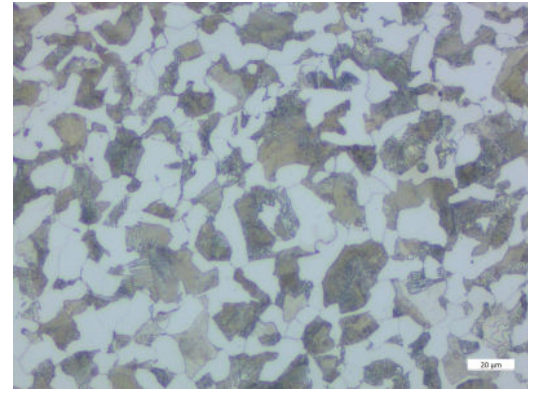
General preparation of medium soft materials					
1	 Piatto #220	 Water	 300 rpm	 35 N	 Until plane
2	 Allegran 3	 DiaUltra 6 μm	 150 rpm	 35 N	 3:30 min
3	 Napal	 DiaUltra 1 μm	 150 rpm	 30 N	 2:30 min

The parameters in the preparation method are based on 300 mm dia. disc size and 40 mm dia. individual samples.

See microphotographs of prepared medium carbon steel below










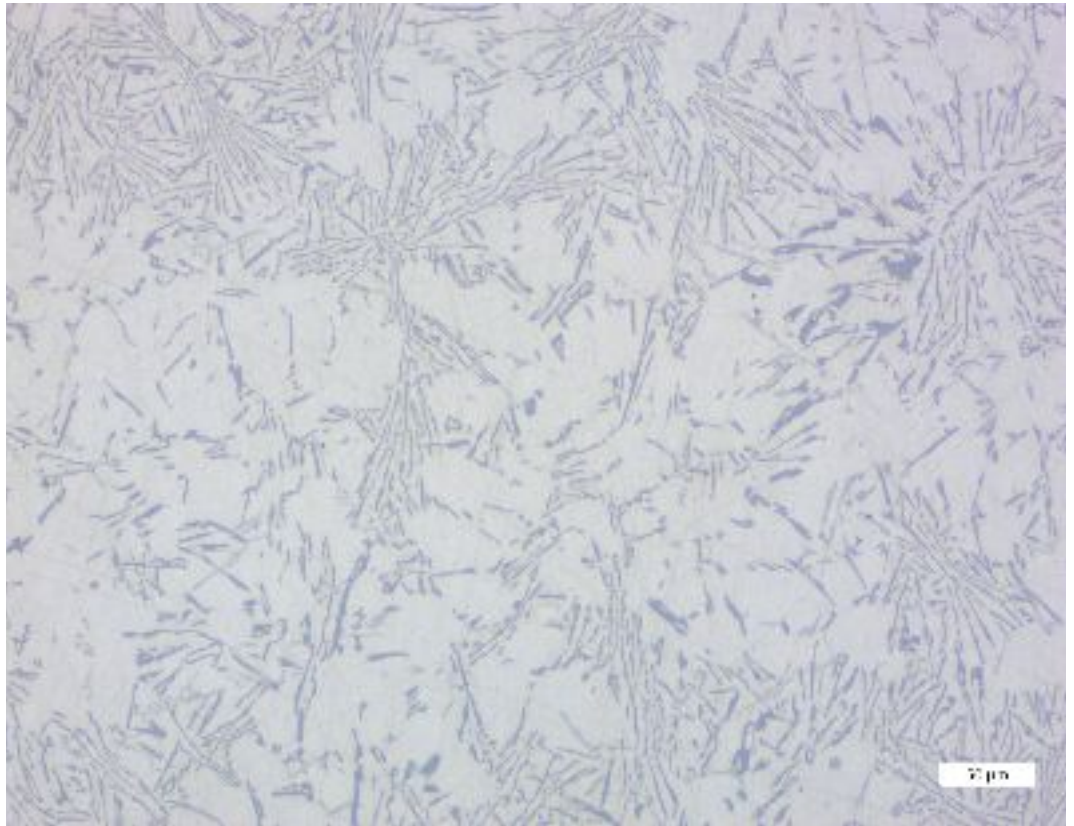
C45 steel after polishing with DiaUltra 1 µm on Napal, etched with Nital 3%, 100 x



C45 steel after polishing with DiaUltra 1 µm on Napal, etched with Nital 3%, 500 x

Also in more traditional preparation methods for soft materials with several polishing steps Napal is the perfect choice for the final step:

General preparation of soft materials					
1	 Rhaco Grit P320	 Water	 300 rpm	 25 N	 Until plane
2	 Largan 9	 DiaUltra 9 µm	 150 rpm	 35 N	 3:30 min
3	 Moran-U	 DiaUltra 3 µm	 150 rpm	 25 N	 2:30 min
4	 Napal	 DiaUltra 1 µm	 150 rpm	 20 N	 2:00 min
<p><i>The parameters in the preparation method are based on 300 mm dia. disc size and 40 mm dia. individual samples</i></p>					



AISI after polishing with DiaUltra 1 μm on Napal, 200 x
Very fine 1 μm scratches are visible, but please notice the absolute flatness of the sample, without any relief between the phases. If this is required, oxide polishing, often used for final polishing of soft materials, can be omitted and diamond polishing be used instead.

The Napal cloth can be used as recommended above, or it can replace similar cloths from other suppliers, keeping the preparation parameters as they were. All the preparation parameters can be transferred directly.

Tip: To eliminate the run-in time, use Aka-Stick to prime the polishing cloth when using diamond abrasives. Use the same grain size as the suspension or spray used.