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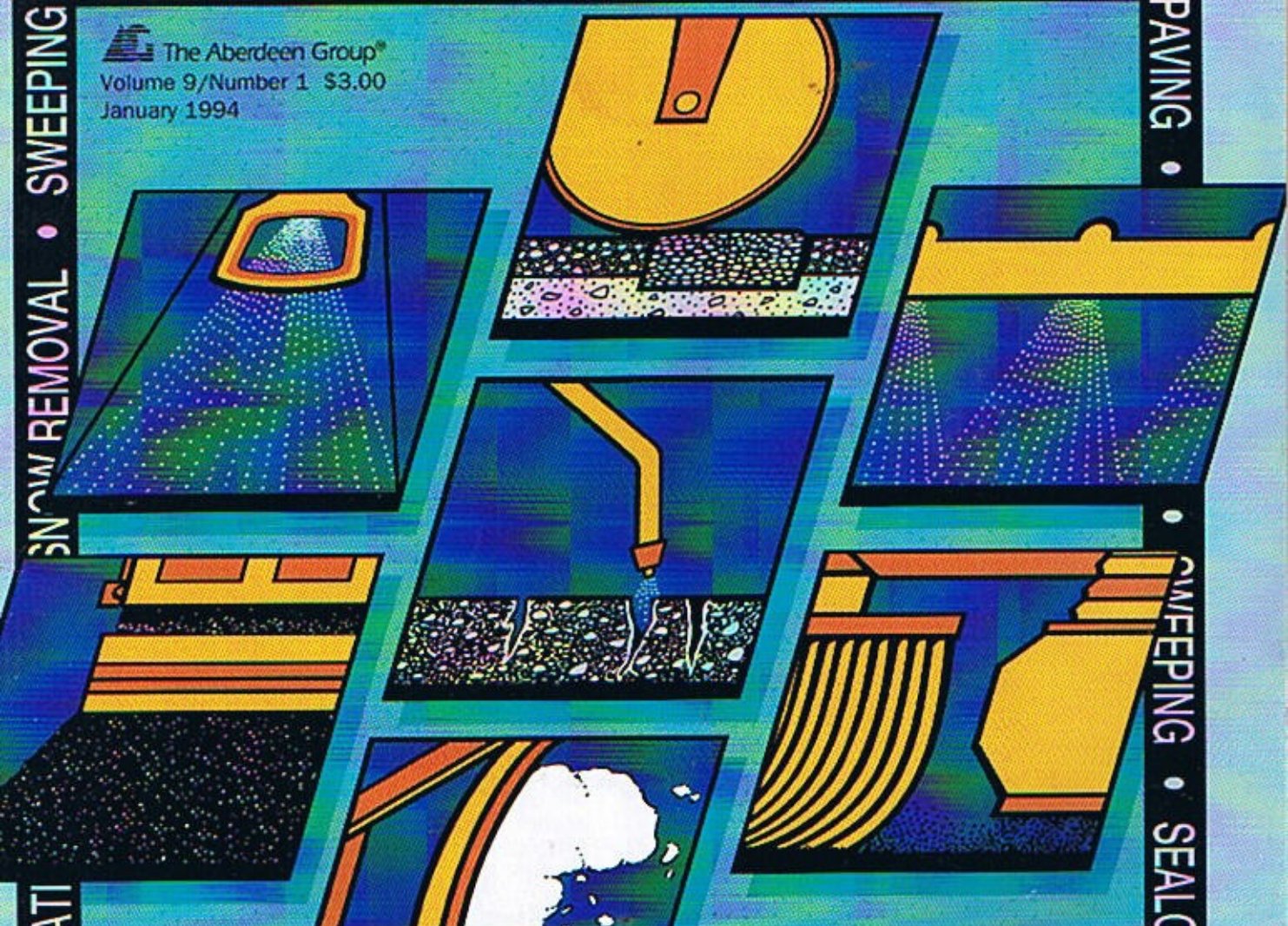
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perature and temperature of the old asphalt pavement. The hotter the oil temperature the longer the waiting period for installing the fabric.

The specification was opposed by manufacturers of propylene fabric and after numerous committee meetings was made less stringent. The committee chose an allowable amount of shrinkage (damage) to the fabric during construction not to exceed 6 inches per roll.

Using emulsions

Rapid-set emulsions work well in the membrane system, but the emulsion must break completely prior to the fabric being placed in the emulsion. This slows the overlay and installation process. Also, runoff problems have occurred in the application of emulsions on sloped and crowned roadways, making the application rate difficult to control.

Under no circumstances can fabric be placed in the emulsion until all water has evaporated from the emulsion. If the fabric is placed before all the water has escaped, escaping steam can create bubbles in the overlay. Another study reported that moisture can cause stripping problems of the asphalt after a brief period of time.

Since a 4-ounce fabric absorbs .20 gallons per square yard as a residual, cutback emulsion must

be placed at a thicker rate. The residual after it has broken must be enough to saturate the fabric, old asphalt, and new asphalt—and make a bond.

Petroleum-based solvent cutbacks should never be used as tack or to secure overlaps. They are damaging to most synthetic fabrics.

Asphalt construction

The thickness of the asphalt must not be less than 1½ inches if installed under ideal climatic conditions, 70° F or above. For temperatures between 50° F and 70° F overlay thickness should not be less than 2 inches. Overlays should not be attempted when the air temperature is less than 50° F. The heat from the overlay draws the tack coat up through the fabric, making a bond. If sufficient residual heat is not present to continue the drawing of the tack up through the fabric, then the bonding process is disrupted; the results being slippage, stripping, and eventual overlay failure. Rolling the asphalt immediately after placement helps to concentrate the heat and supply pressure to start the process of the oil moving up into and through the fabric.

Recycling fabric

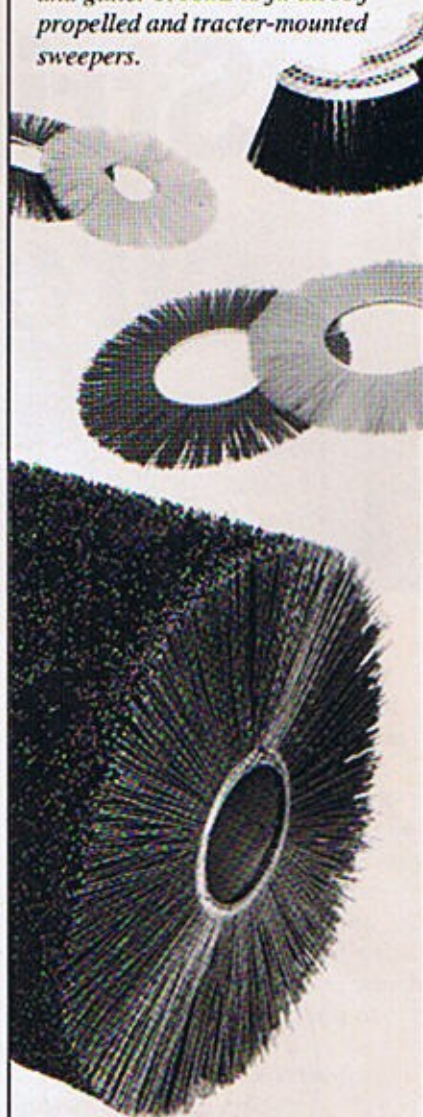
Caltrans found polypropylene fabric to be recyclable during experimental milling research. Cohesion values for both the hot and cold recycle briquettes with fabric exceeded the cohesion values of the control mixes.

The fabric also seemed to provide some tensile reinforcement to the asphalt mix. The surface abrasion test results showed a significant improvement in the hot recycle briquettes and no detriment in the cold recycle briquettes. Polyester manufacturers have run tests showing that their product is also recyclable. **PM**

Mounque Barazone is president of Geotextile Apparatus Co. (GAC), San Diego. This is the final installment in a four-part series on the state of the art of paving fabric.

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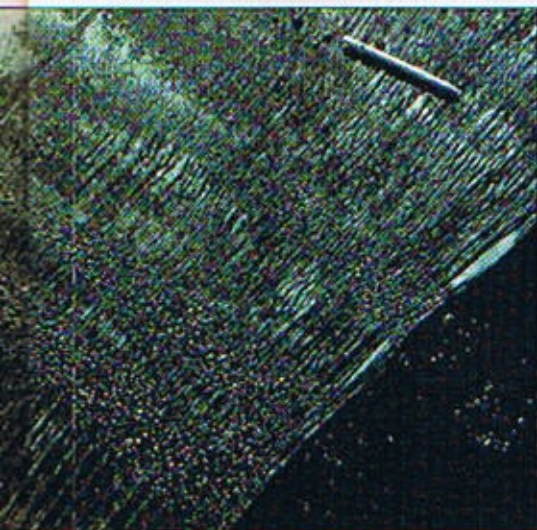
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A close-up of heat-damaged fabric.