

Recycling a PROVEN SOLUTION with Fractured Materials and
New Mix Designs.

Note String Line, 1/2" Material Thickness at Center Line

Roads & Streets

THE MAGAZINE FOR HIGHWAY/HEAVY CONSTRUCTION



New paver
lays wide swath
in city street

Spotlight: Walk-behind compactors

Roads & Streets
is changing its name:
See pages 26 & 27

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Note Date – on paving project, Main Street in Princeton
RT 34 and RT 26 – A major truck route through the city.



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ADVANCED ASPHALT introduces a cost-effective method to:

- Reduce the cost of resurfacing city streets
- Reduce public downtime to complete work
- Material is a High Performance Material equaling "I-11" in Marshall Stability, 2000+
- Meets & Beats Requirements for "E" Mixes – The Anti-Skid Mix
- Anti-Skid Pavements Reduce Traffic Mishaps
- Corrects Channeling with a minimum of material

MICRO-MIX:

Gradation:

3/8"	100.0
#4	96.0
#8	57.0
#16	38.0
#30	23.0
#50	13.0
#100	7.0
#200	5.1

The "Fracture Factor",
used to create Interlocking
Mixes



FM-02

FM-20

FM-22

MICRO MIX

Costs less per sq. yard than I-11
Eliminates milling expense prior
to overlay



CLOSEUP

Fractured Sand is the key to strong
Interlocking Mixes

**Strength and Stability
from the ground up!**

NEW WIDE PAVER PUTS DOWN THIN OVERLAY

A sand-emulsion surface as thin as half an inch was recently placed on a heavily traveled city street with a wide paver of innovative design. Strunk Brothers Asphalt Co of Tiskilwa, Illinois, used a prototype Blaw-Knox 20-ft wide paver, designated PF 200, to put down about 3000 tons of the mix in three days.

The job covered more than a mile of North Main St in Princeton, Ill., part of Illinois 26. Heavy traffic from grain trucks had severely damaged the old asphalt which covered an older brick pavement. Because of the low curbing and the need to maintain the flow of dense traffic it wasn't thought desirable to repave with a hotmix of standard specification and thickness.

The sand-emulsion isn't considered to be a conventional specification. It was developed and tested over five years in conjunction with Emulsified Asphalts Inc.

However, it had proved to be highly successful on another mile-long segment of the route in the east end of Princeton. After nearly three years of summer and winter traffic the pavement showed little

signs of wear and no rutting or shoving.

The northern 1300 ft of the street was up to 60 ft wide so Richard Nelson, co-owner of Strunk Bros and supervisor of the work at Princeton, used the new paver in tandem with a Blaw-Knox PF 120 unit. This preceded the larger machine, laying down 10 ft width along the curb and feathering down to less than 1/2 in. at driveways and intersections.

New paver is key

The big unit followed a string-line down the center of the street to make an overlap determined by the width of the street. After the right-of-way tapered down to 40 ft wide, the PF 200 took over the entire paving chore for the balance of the work.

The design of the adjustable moldboard on the prototype paver is apparently the key to laying down such a thin layer without tearing. At speeds between 15 and 20 fpm the machine put down 1/2 in. minimum thickness even though the crown was uneven and the old surface was deeply alligatored.

A prototype wide paver (below) places a sand-emulsion mat as thin as 1/2 in. on a section of Main St. in Princeton, Ill. The route covered more than a mile of pavement from 40 to 60 ft wide.



"This was a very tender mix and great precision was required to assure a successful job," said Nelson. "We were aiming at precision, to maintain minimum thickness rather than to achieve tonnage. Constant screed adjustments were necessary to accommodate the variations of the old pavement."

A pair of flagmen with walkie-talkies maintained single-lane traffic through the paving area during the entire time the pavers were working. A pair of Galion hydrostatic rollers followed closely behind the pavers and, as soon as the mat was cool enough, traffic was routed over the newly paved half of the street as the other half was being paved.

The paving material was brought about seven miles from the hotmix plant in four Chevrolet C65 tandems which hauled about 12 tons each and in a pair of Autocar semis holding about 20 tons each. All haulers had Anthony bodies and single cylinder hydraulic hoists.

Back at the batch plant the trucks were loaded out under a 100-ton capacity Standard Havens Surg-Stor silo over a CG Systems solid

state digital scale control with load cell. This loads and weighs trucks at preset tonnages.

Batch plant

Each batch from the Stansteel batch plant weighed about 3000 lb, even though the plant had a rating of 6500 lb, since the hot sand and emulsion mixture expanded in volume. In addition, the 30 percent water in the HFE 90 emulsion flashed off a large volume of vapor as it hit the 575F sand in the pug-mill. This vapor was taken off with an exhaust fan and a sheet metal stack connected above the pug-mill. Mix was elevated to the surge bin with a Standard Havens elevator which can be moved away from the discharge gates when the storage feature is not needed.

Normal operation of the batch

plant includes a pair of 20,000-gal underground storage tanks. However, the emulsion was held in an Etnyre bulk tanker parked in the storage area and connected to the pumping system. Sand was delivered to the feed bins by an Allis-Chalmers frontend loader with 5 cu yd bucket. □

More information on equipment mentioned is available by circling appropriate reader service numbers in this issue.

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Precision paving was more of a consideration than speed or tonnage; yet the work was done in the midst of heavy traffic.



Each truck (left) is loaded with a pre-set tonnage of sand emulsion mix while it stands on scale platform with digital weight control.