
ANOTHER

MF 185-1

SLAG

SUCCESS STORY

THE
ALL-PURPOSE
CONSTRUCTION
AGGREGATE

STEEL SLAG REQUIRED ON THE ILLINOIS STATE TOLL HIGHWAY

During the period 1981 through 1984, eighty-five thousand (85,000) tons of steel-slag coarse aggregate were used by five separate contractors for the surface course on all ramps and approaches, bridge approaches, and super-elevated horizontal curves on the 256-mile Tri-State Tollway.

Steel slag was required by the specifications, as it was the only aggregate that will meet the requirements of their 10-year wet skid-resistance program.



FINISHED TOLLWAY

The steel-slag coarse aggregate was required to meet the following grading requirement:

Sieve Size	% Passing	Sieve Size	% Passing
3/4	100	No. 4	20-50
1/2	94-100	No. 16	0-14
3/8	70-90	No. 200	0-6

The following open-graded combined grading, consisting of 68% coarse aggregate and 32% fine aggregate, was specified in order to enhance self-drainage:

Sieve Size	% Passing	Sieve Size	% Passing
3/4	100	No. 16	22-33
1/2	95-100	No. 30	17-27
3/8	77-92	No. 50	12-21
No. 4	33-61	No. 100	7-15
No. 8	28-47	No. 200	2-9

The mix design provided for an air-void content of 3.19 with 78.5% of the aggregate voids being filled with bitumen. The specification required Marshall stability to be in excess of 2500; the mix used had stability in excess of 3100.

Payment for the bituminous concrete surface course (modified) was on a per-ton basis.



CLOSE-UP OF TEXTURE