Detailed Field Test Summary

The TransTech Joint Maker™ System can deliver higher density, higher quality longitudinal joints!

THE CHALLENGE: *Pavement owners are instituting longitudinal joint density performance specifications on a more frequent basis.* Warranties for longitudinal joint performance also are being included in a variety of new contract structures, including warranty, A+B, and Design/Build.

RESULTS: In recent pavement field tests, the TransTech Joint Maker™ System constructed longitudinal joints yielding average densities at the joints which are comparable to, and in come cases meet or exceed the average densities of the asphalt mat. In all cases, the agency having jurisdiction for the project sanctioned the test results.

1996 Field Test Summary

		Average Density		
State	Pavement Type	Mat	Joint	Difference
Maine	Highway	92.0%	93.8%	+1.8%
Indiana	Highway	94.1%	94.1%	+0.0%
Indiana	Airport	97.6%	96.4%	-1.2%
Pennsylvania	Highway	94.0%	93.0%	-1.0%
Pennsylvania	Airport	97.4%	96.6%	-0.8%
Louisiana	Airport	99.3%	97.0%	-2.3%
New York	Airport	99.2%	97.3%	-1.9%
Indiana	Airport	97.4%	95.8%	-1.6%

1997 Field Test Summary

		Average Density		
State	Pavement Type	Mat	Joint	Difference
Puerto Rico	Airport	100.0%	98.3%	-1.7%
Florida	Airport	98.1%	96.9%	-1.2%
Manitoba, Canada	Highway	94.8%	94.1%	-0.7%

Longitudinal joints made with the Joint Maker™ System:

- Meet or exceed performance specifications, while lowering the cost of paving!
- Increase pavement life and reduce maintenance costs!
- Improve work site safety and public convenience!

Detailed Field Results

Project:	State of Maine Department of Transportation USA Route 1A, Caswell Project 96-02	
Date Paved:	September 1996	
Asphalt Mix:	Type C	Contractor:
Highway Type:	Two Lane, Width 10' 9"	Lane Construction
Mat Thickness:	1.25"	

Project consisted of six 2,000' test sections. The Joint Maker™ was used on one section. The other sections consisted of various rolling techniques, edge cutbacks, and a control section.

Summary Results: **Average Density Difference: +1.8%**

Project:	Indiana Department of Transportation I-70, Hancock County, Indiana Contract # R-22232	
Date Paved:	June 1996	
Asphalt Mix:	#11 Surface	Contractor:
Highway Type:	Interstate	Milestone Contractors
Mat Thickness:	1.00"	

First warranty contract in the State of Indiana. Five year warranty on pavement, including longitudinal joints. Repaving consisting of milling existing HMA, crack and seat of concrete, new binder course, and new surface course.

Summary Results: **Average Density Difference: +0.0%**

Detailed Field Results

Project:	Niagara Falls International Airport Niagara Falls, New York	
Date Paved:	August - September 1996	
Asphalt Mix:	P-401	Contractor:
Highway Type:	Airport Runway	Janik Paving & Construction
Mat Thickness:	2” – 4”	

Project was paved in two phases, the first without the Joint Maker™, and the second with the Joint Maker™.

	Without JM	With JM
Mat:	98.8%	99.2%
Joint:	94.6%	97.3%

Summary Results: **Average Density Difference with JM: -1.9%**
Average Density Difference without JM: -4.2%

Project:	Purdue University Airport West Lafayette, Indiana Project 16232	
Date Paved:	July – August 1996	
Asphalt Mix:	P-401	Contractor:
Highway Type:	Main Runway 10-28	Milestone Contractors
Mat Thickness:	2.5” Base, 1.5” Top	

Existing runway was pulverized, compacted and left in place as sub-base. New base course and top course added, 150” wide x 4600’ long.

Summary Results: **Average Density Difference: -1.6%**

Detailed Field Results

Project:	U.S Army Reserve Aviation Facility Johnstown, PA	
Date Paved:	August 1996	
Asphalt Mix:	HD Intermediate Course HD Wearing Course - Apron	Contractor:
Airport Type:	Aircraft and Helicopter Parking Area	Quaker Sales Corp.
Mat Thickness:	2” intermediate – Parking 2” wearing - Apron	

Project was a new installation, with a new stone base under the entire area. The job size was approximately 700’ x 700’.

Summary Results: **Average Density Difference: -0.8%**

Project:	New Orleans International Airport New Orleans, Louisiana Project N.O.A.B. #55-92-07	
Date Paved:	May – October 1996	
Asphalt Mix:	P-401	Contractor:
Highway Type:	Airport Taxiway	T.L. James & Co.
Mat Thickness:	3” – 5”	

Project was paved in two phases, the first without the Joint Maker™, and the second with the Joint Maker™.

	Without JM	With JM
Mat:	99.0%	99.3%
Joint:	95.9%	97.0%

Summary Results: **Average Density Difference with JM: -2.3%**
Average Density Difference without JM: -3.1%

Detailed Field Results

Project:	Richmond Municipal Airport Richmond, Indiana AIP # 3-18-0071-03	
Date Paved:	July 1996	
Asphalt Mix:	P-401.75	Contractor:
Airport Type:	General Aviation Runway Overlay	Milestone Contractors
Mat Thickness:	1.75" – 3.0"	

Resurfacing of main runway and aircraft parking area. Density results obtained by coring by Engineering and Testing Services, Inc. Total of 152 cores taken.

Summary Results: **Average Density Difference: -1.2%**

Project:	Commonwealth of Pennsylvania Department of Transportation Route SR-441, South of Harrisburg Project # 087302	
Date Paved:	September 1995	
Asphalt Mix:	1D-2	Contractor:
Highway Type:	Two lane 13' width; 6" shoulder	McMinn's Asphalt
Mat Thickness:	1.50"	

Resurfacing project contained eight longitudinal joint construction test sections, each 500' in length. Density results were obtained using Nuclear Gage. Sample size: 18 per test section

Summary Results: **Average Density Difference: -1.0%**

Detailed Field Results

Project: Luis Munoz Marin International Airport
San Juan, Puerto Rico
Runway 8-26
BlawKnox PF-180 Paver with 8" Joint Maker™ System

Date Paved: May – July 1997

Contractor:
Betteroads Corp.

Lot Number	Avg. Mat Density	Avg. Joint Density	Lot Number	Avg. Mat Density	Avg. Joint Density
1	98.3	98.1	11	99.9	97.7
2	101.5	98.5	12	99.8	98.6
3	100.5	99.2	13	99.8	98.3
4	100.0	98.7	14	100.0	98.8
5	100.0	98.4	15	100.4	98.1
6	100.2	98.7	16	99.8	97.3
7	99.1	98.7	17	99.8	96.8
8	100.1	98.5	18	99.7	97.9
9	100.4	99.4	19	100.3	98.2
10	100.3	97.9	20	100.3	97.5

Total Average Mat Density: 100.0 Total Average Joint Density: 98.3

Summary Results: Average Density Difference: -1.7%

Detailed Field Results

Project:	RSW Air Carrier Apron Rehabilitation Fort Myers, FL				
Date Paved:	May – June 1997		Contractor: Betteroads Corp.		
Lot Number	Avg. Mat Density	Avg. Joint Density	Lot Number	Avg. Mat Density	Avg. Joint Density
1	98.8	96.9	16	97.3	97.4
2	97.7	96.2	17	97.7	97.3
3	97.3	96.3	18	97.9	96.7
4	98.6	97.5	19	97.9	97.6
5	98.2	97.4	20	98.5	97.7
6	99.6	97.5	21	98.0	97.6
7	98.2	97.4	22	98.8	99.0
8	97.9	97.3	23	97.4	96.1
9	97.9	97.3	24	97.4	96.0
10	97.3	95.1	25	97.3	95.6
11	97.3	96.4	26	97.3	95.6
12	97.6	95.9	27	97.2	95.6
13	96.6	96.6	28	97.2	95.7
13S	97.7	96.6	29	97.4	95.6
14	99.9	98.2			
15	97.8	96.1			

Total Average Mat Density: 98.1 Total Average Joint Density: 96.9

Summary Results: Average Density Difference: -1.2%

Detailed Field Results

Project:	Provicinial Road 354 Construction Manitoba, Canada		
Date Paved:	June 1997	Contractor: Nelson River Construction	
	Kilometer	Avg. Mat Density	Avg. Joint Density
With 8” Joint Maker	3	94.1	93.8
	4	95.1	94.0
	5	94.9	94.2
	6	95.1	94.5
Total Average Density:		94.8	94.1
Without 8” Joint Maker	12	94.4	92.7
	11	94.4	92.8
	10	94.5	92.5
	9	94.3	92.6
Total Average Density:		94.4	92.6

Summary Results: **Average Density Difference with JM: -0.7%**
Average Density Difference without JM: -1.8%