

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 some 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				
<u>State</u>	<u>Pavement Type</u>	<u>Average Density</u>		
		<u>Mat</u>	<u>Joint</u>	<u>Difference</u>
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				
<u>State</u>	<u>Pavement Type</u>	<u>Average Density</u>		
		<u>Mat</u>	<u>Joint</u>	<u>Difference</u>
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

<u>Project:</u>	State of Maine Department of Transportation USA Route 1A, Caswell Project 96-02	
<u>Date Paved:</u>	September 1996	
<u>Asphalt Mix:</u>	Type C	<u>Contractor:</u>
<u>Highway Type:</u>	Two Lane, Width 10' 9"	Lane Construction
<u>Mat Thickness:</u>	1.25"	
<p>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.</p>		
<u>Summary Results:</u>	Average Density Difference: +1.8%	

<u>Project:</u>	Indiana Department of Transportation I-70, Hancock County, Indiana Contract # R-22232	
<u>Date Paved:</u>	June 1996	
<u>Asphalt Mix:</u>	#11 Surface	<u>Contractor:</u>
<u>Highway Type:</u>	Interstate	Milestone Contractors
<u>Mat Thickness:</u>	1.00"	
<p>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.</p>		
<u>Summary Results:</u>	Average Density Difference: +0.0%	

Detailed Field Results

<u>Project:</u>	Niagara Falls International Airport Niagara Falls, New York	
<u>Date Paved:</u>	August - September 1996	
<u>Asphalt Mix:</u>	P-401	<u>Contractor:</u>
<u>Highway Type:</u>	Airport Runway	Janik Paving & Construction
<u>Mat Thickness:</u>	2" – 4"	
<p>Project was paved in two phases, the first without the Joint Maker™, and the second with the Joint Maker™.</p>		
	<u>Without JM</u>	<u>With JM</u>
Mat:	98.8%	99.2%
Joint:	94.6%	97.3%
<u>Summary Results:</u>	Average Density Difference with JM: -1.9% Average Density Difference without JM: -4.2%	

<u>Project:</u>	Purdue University Airport West Lafayette, Indiana Project 16232	
<u>Date Paved:</u>	July – August 1996	
<u>Asphalt Mix:</u>	P-401	<u>Contractor:</u>
<u>Highway Type:</u>	Main Runway 10-28	Milestone Contractors
<u>Mat Thickness:</u>	2.5" Base, 1.5" Top	
<p>Existing runway was pulverized, compacted and left in place as sub-base. New base course and top course added, 150" wide x 4600' long.</p>		
<u>Summary Results:</u>	Average Density Difference: -1.6%	

Detailed Field Results

<u>Project:</u>	U.S Army Reserve Aviation Facility Johnstown, PA	
<u>Date Paved:</u>	August 1996	
<u>Asphalt Mix:</u>	HD Intermediate Course	<u>Contractor:</u>
<u>Airport Type:</u>	HD Wearing Course - Apron	Quaker Sales Corp.
	Aircraft and Helicopter Parking Area	
<u>Mat Thickness:</u>	2" intermediate – Parking 2" wearing - Apron	
<p>Project was a new installation, with a new stone base under the entire area. The job size was approximately 700' x 700'.</p>		
<u>Summary Results:</u>	Average Density Difference: -0.8%	

<u>Project:</u>	New Orleans International Airport New Orleans, Louisiana Project N.O.A.B. #55-92-07	
<u>Date Paved:</u>	May – October 1996	
<u>Asphalt Mix:</u>	P-401	<u>Contractor:</u>
<u>Highway Type:</u>	Airport Taxiway	T.L. James & Co.
<u>Mat Thickness:</u>	3" – 5"	
<p>Project was paved in two phases, the first without the Joint Maker™, and the second with the Joint Maker™.</p>		
	<u>Without JM</u>	<u>With JM</u>
Mat:	99.0%	99.3%
Joint:	95.9%	97.0%
<u>Summary Results:</u>	Average Density Difference with JM: -2.3% Average Density Difference without JM: -3.1%	

Detailed Field Results

<u>Project:</u>	Richmond Municipal Airport Richmond, Indiana AIP # 3-18-0071-03	
<u>Date Paved:</u>	July 1996	
<u>Asphalt Mix:</u>	P-401.75	<u>Contractor:</u>
<u>Airport Type:</u>	General Aviation Runway Overlay	Milestone Contractors
<u>Mat Thickness:</u>	1.75" – 3.0"	
<p>Resurfacing of main runway and aircraft parking area. Density results obtained by coring by Engineering and Testing Services, Inc. Total of 152 cores taken.</p>		
<u>Summary Results:</u>	Average Density Difference: -1.2%	

<u>Project:</u>	Commonwealth of Pennsylvania Department of Transportation Route SR-441, South of Harrisburg Project # 087302	
<u>Date Paved:</u>	September 1995	
<u>Asphalt Mix:</u>	1D-2	<u>Contractor:</u>
<u>Highway Type:</u>	Two lane 13' width; 6" shoulder	McMinn's Asphalt
<u>Mat Thickness:</u>	1.50"	
<p>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</p>		
<u>Summary Results:</u>	Average Density Difference: -1.0%	

Detailed Field Results

<u>Project:</u>		Luis Munoz Marin International Airport San Juan, Puerto Rico Runway 8-26 BlawKnox PF-180 Paver with 8" Joint Maker™ System			
<u>Date Paved:</u>		May – July 1997		<u>Contractor:</u> Betterroads 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		
<u>Summary Results:</u> Average Density Difference: -1.7%					

Detailed Field Results

<u>Project:</u>		RSW Air Carrier Apron Rehabilitation Fort Myers, FL			
<u>Date Paved:</u>		May – June 1997		<u>Contractor:</u> Betterroads 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		
<u>Summary Results:</u> Average Density Difference: -1.2%					

Detailed Field Results

<u>Project:</u>	Provincial Road 354 Construction Manitoba, Canada		
<u>Date Paved:</u>	June 1997	<u>Contractor:</u> Nelson River Construction	
	<u>Kilometer</u>	<u>Avg. Mat Density</u>	<u>Avg. Joint Density</u>
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
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
<u>Summary Results:</u>	Average Density Difference with JM: -0.7% Average Density Difference without JM: -1.8%		