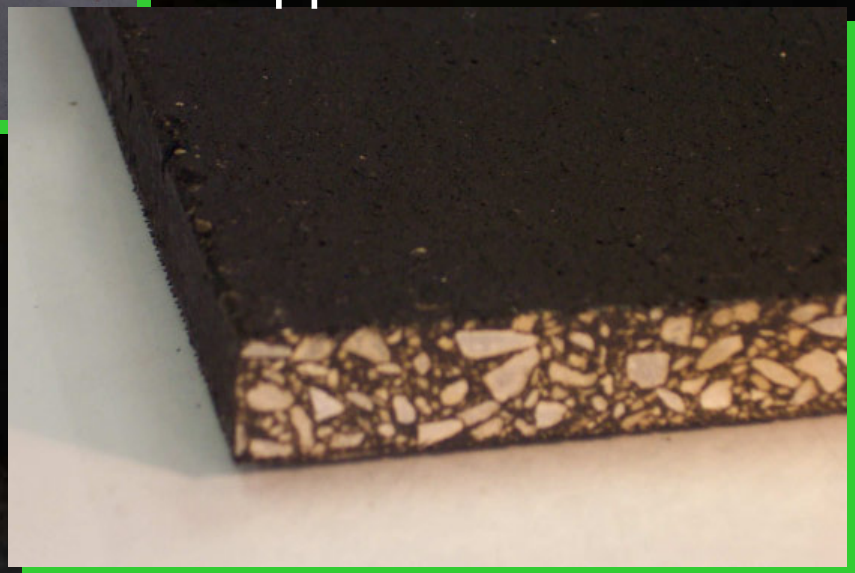
Thick Microsurfacing

Thick Microsurfacing

Novel Heavy Single Course which provides an alternative to conventional leveling and surface course applications.



Provides an economic preventive maintenance alternative to HMA Thin Seal and Smoothseal Overlays.

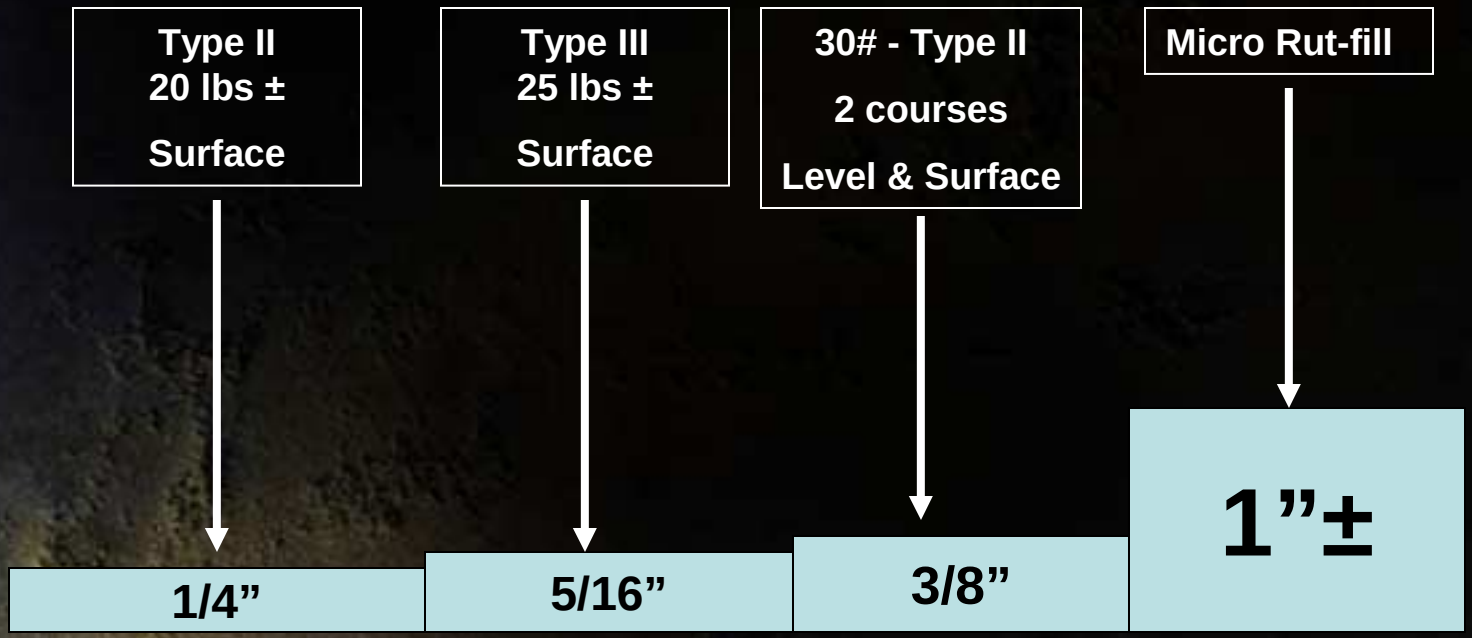
HMA Smoothseal

ODOT 424 Type B

Conventional Microsurfacing

Typical Industry Standards

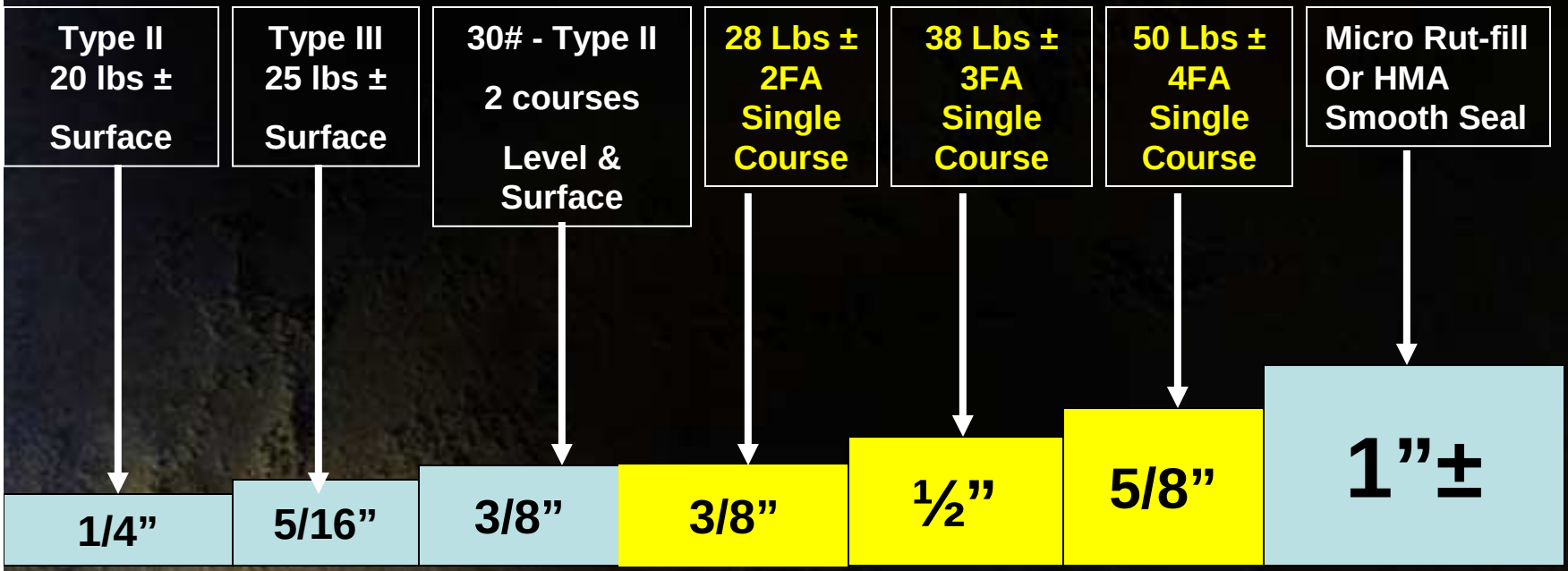
Application Rates: (Thickness)



Thick Microsurfacing

2 Course Thickness Achieved

By Single Pass Application



Application Rates: (Thickness)

Thick Microsurfacing

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Micro-Surfacing
COLD MIX ASPHALT (CMA)

CORRECTS MINOR RUTTING
IMPROVES RIDE QUALITY
HIGH FRICTION WEARING SURFACE
SEALS SURFACES & PRESERVES PAVEMENT

Thick Microsurfacing

Micro-Surfacing
COLD MIX ASPHALT (CMA)
Preventive Maintenance Treatment
It Will Not:
Correct Major Rutting Issues
Correct Poor or Failing Structural Defects
Replace Rehabilitation When Needed

Thick Microsurfacing

Parameter Vs. Mix Type	2FA-9mm CMSC	3FA-12mm CMSC	4FA-15mm CMPC
Application Rate Pounds Dry Agg./yd^2	26 +/- 2	38 +/- 3	50 +/- 5
Residual Asphalt %	8% +/- 1%	7.5% +/- 1%	7% +/- 1%

Thick Microsurfacing Application Mix Requirements

Parameter	Low Volume ADT<500 Commercial ADT<100	Medium Volume ADT 500-2,500 Commercial 100-300	High Volume ADT>2500 Commercial ADT>300
ISSA TB-100 1-hr Soak, Max. 6-day Soak, Max	807g/m^2 NA	538 g/m^2 807 g/m^2	450 g/m^2 650 g/m^2
ASTM D-36 AC Binder R&B Softening Point, ℃, min.	50℃	55℃	60℃
ISSA TB-147A Lateral Displacement, Max	NA	15%	10%
Aggregate Percent Crushed Minimum	75%	95%	100%

Thick Microsurfacing

Aggregate Physical Requirements

Parameter	Low Volume ADT < 500 Comm. ADT<100	Medium Volume ADT 500-2,500 Comm. ADT100-300	High Volume ADT >2,500 Comm. ADT >300
Sand Equivalent, ASTM D2419, Min.	60	65	65
Soundness ASTM C88, Max.	15%	15%	15%
Abrasion Resistance ASTM C131, Max.	35%	30%	30%

Thick Microsurfacing

Gradation Comparisons

Sieve Size	MI	OH, type B	CMA 3FA	CMA 2FA	CMA 4FA	COMMON
1/2 inch	100	100	100	100	100	100
3/8 inch	99-100	95-100	100	100	90-100	100
No. 4	75-95	85-95	70-90	85-100	60-80	85
No. 8	55-75	53-63	45-70	55-90	40-65	60
No. 16	NA	37-47	28-50	40-70	25-45	40
No. 30	25-45	25-35	19-34	25-50	15-30	30
No. 50	NA	9 to 19	12 to 25	15-30	12 to 25	15
No. 100	NA	NA	7 to 18	10 to 21	7 to 18	12
No. 200	3 to 8	3 to 8	6 to 13	8 to 15	4 to 10	8

Thick Microsurfacing

Hard Strike-off provides uniform application finish at thicknesses of 3/8 - 5/8”- Burlap may be used to texture finish

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Thick Microsurfacing

US23 Michigan- June 2007

8.1miles = 203,000 yd^2 3FA 35lb Mainline

Thick Microsurfacing

2008 and Beyond?

- Preventive Maintenance Demand Increasing due to High AC Costs
- Reduced Emissions from Cold Applied Products Growing in Popularity

Thick Microsurfacing

Thank You