

**Estimating Quantities in English & Metric**

Reference to 2017 NDOT Standard Specifications for Highway Construction

**General Information:**

Items are listed in alphabetical order.

Conversion factors are in English and Metric.

R.A.P. is an acronym for Recycled Asphalt Pavement other term used Bituminous Millings.

Weight of RAP – 144 lbs./ft<sup>3</sup>

One gallon of emulsified asphalt or water weighs 8.333 lbs.

Beveled edges in asphalt roadways are included in the asphalt tons. In concrete the bevel footprint is measured and added to the surface top square yards.

**Asphaltic concrete projects.** Add the following equipment rental items and hours.

“Rental of Loader, Fully Operated” – 15 Hour

“Rental of Motor Grader, Fully Operated” – 15 Hour

“Rental of Dump Truck, Fully Operated” – 15 Hour

“Rental of Skid Loader, Fully Operated” – 15 Hour

**Armor Coat – Section 515**

“Armor Coat Aggregate” – Cubic Yard (cubic meter)	23 lbs./yd <sup>2</sup>	conversion factor 1.3 tons = 1 yd <sup>3</sup>
	14.1 kg/m <sup>2</sup>	conversion factor 1.54 Mg = 1 m <sup>3</sup>
“Armor Coat Emulsified Asphalt” – Gallon (kiloliters)	0.34 Gal/yd <sup>2</sup>	(0.9 L/m <sup>2</sup> )

**Asphaltic Concrete – Section 503, Section 1028 & Special Provision**

“Asphaltic Concrete, Type “\_\_\_”” – Ton (megagram) Tables on pages 9 &amp; 10 for types and weight

Include material required for beveled edge

“Hydrated Lime/WMA” – Each Table on page 8

“RAP Incentive Payment” – Each Asphaltic Concrete Type “\*\*\*” tons x 1.7 = Each

**Asphaltic Concrete Curb – Section 505**

“Constructing Asphaltic Concrete Curb” – Linear Foot (meter)

Factor for 3” (75 mm) Curb 1.35 Tn/Sta (4.0 Mg/Sta)

Factor for 4” (100mm) Curb 2.00 Tn/Sta (6.0 Mg/Sta)

Factor for 6” (150mm) Curb 2.10 Tn/Sta (6.25 Mg/Sta)

Factor for Tack Coat 1.0 Gals/Sta (4 L/Sta)

**Asphaltic Concrete for Patching – Section 516**

“Asphaltic Concrete for Patching, Type “\_\_\_”” – Ton (megagram)

**Asphalt Pavement Smoothness Testing ID - Section 502 & Special Provision****Superpave Quality and Asphalt Smoothness Testing I/D - Special Provision**

“Superpave Quality and Asphalt Smoothness Testing I/D” – Each 4.5 X mainline asphalt tonnage.

**Bituminous Patching of Concrete Pavement – Section 520**

“Bituminous Patching” – Ton (megagram)

**Bituminous Sand Base Course – Section 509**

“Bituminous Sand Base Course Asphaltic Oil” – Gallon (liter)	1000 Gal/Sta for (5” x 24’) [12400 L/Sta for (130 mm x 7.3 m)]
“Bituminous Sand Base Course Emulsified Asphalt” – Gallon (liter)	1200 Gal/Sta for (5” x 24’) 6% residual [14900 L/Sta for (130 mm x 7.3 m) 6%)]
“Bituminous Sand Base Course” – Station	
“Mineral Filler for Bituminous Sand Base Course” – Cubic Yard (Cubic Meter)	**10 CY/Sta for (5”x24’) **25 m <sup>3</sup> /Sta for (130mmx7.3m)
“Mineral Aggregate” – Cubic Yard (cubic meter)	Do not use for estimate.
“Water” – MGal - (kiloliter)	1 Mga/Sta (12 KL/Sta)
“Fog Seal” – Gallon (liter)	0.15 Gal/yd <sup>2</sup> (0.68 L/m <sup>2</sup> )

\*\* Quantity of Mineral Filler will vary depending on type of soil.

**Bituminous Surface Course – Section 512**

“Bituminous Surface Course” – Square Yard (square meter)

“Fog Seal” – Gallon (liter) 0.6 Gal/yd<sup>2</sup> (2.5 L/m<sup>2</sup>)**Bridge Items**

“Placement of Asphaltic Concrete for Bridges” – SqYd or SqFt (begin with the 8-25-2022 letting)

“Saw and Seal Joint” – LF - on bridge plans (add if not on plans and adjacent pavement is PCC or Composite)

“Bridge Preparation” – SqYds or SqFt -- Use Type 1 or Type 2

“Preformed Waterproofing Membrane, Type 1” - SqYd

“Preformed Waterproofing Membrane, Type 2” -- SqYd

“Preformed Waterproofing Membrane, Type 3” \_ SqYd -- used for new bridges

“Hot Liquid – Applied Membrane Waterproofing” – SqFt

“Cold Liquid – Applied Membrane Waterproofing” – SqFt -- Item is no longer available maybe in the future.

**Calcium Chloride, Applied – Section 309**“Calcium Chloride Applied” – Ton (megagram) 3 lbs./yd<sup>2</sup> (1.6 kg/m<sup>2</sup> or 0.0015 Mg/m<sup>2</sup>)**Cement Stabilized Bituminous – Special Provision**

“Cement Stabilized Bituminous” – Station

“Cement” – Ton (megagram) 5% weight of RAP

“Water for Cement Stabilization” – MGal (kiloliter) 5% weight of RAP &amp; Cement (convert to MGal)

“Cold Milling, Class 2” – Station – Use if required in the “Pavement Determination”

“Fog Seal” – Gallon (liter) - See Note 0.24 Gal/yd<sup>2</sup>

Note: One application after the “CSB” Second application after the “Cold Milling, Class 2 if required.

**Chip Seal – Section 515**“Chip Seal Aggregate” – Cubic Yard 25 lb/yd<sup>2</sup> (aggregate weight 1.4 tons = 1 yd<sup>3</sup>)  
(Cubic Meter) [11.0 kg/m<sup>2</sup> (aggregate weight 1.54 Mg = 1 m<sup>3</sup>)]“Chip Seal Emulsified Asphalt” – Gallon (liter) 0.36Gal/yd<sup>2</sup> 1.4 L/m<sup>2</sup>)**Cold In-Place Recycling (w/Foamed Asphalt) – Special Provision**

“Cold In-Place Recycling with Foamed Asphalt” – Station

“Performance Graded Binder (58-28)” - Ton 2% RAP (4"x24'= 1.15 ton/sta) (4'x28'= 1.34 ton/sta)

“Fog Seal” – Gallon 0.10 Gal/yd<sup>2</sup>**Cold Milling – Section 510**

“Cold Milling, Class \_\_\_\_\_” – Station, Square Yard (square meter)

**Concrete Pavement Repair, Flexible Polymer Modified”**

“Concrete Pavement Repair, Flexible Polymer Modified” – Square Yard

Note: Special Provision describes depth of repair. Preparation of concrete, primer, bulking aggregate, and surfacing aggregate are subsidiary.

**Concrete Sealer – Special Provision**“Penetrating Concrete Sealer” – Gallons 300 Sq/Ft per Gal @ 100% Silane  
150 Sq/Ft per Gal @ 40% Silane

(Estimate for Buy America) Internally pre-letting, assume total material costs are 35% of the total contract cost. Multiple that number by 5% to get the threshold we cannot exceed for non-compliant BABA material

**Concrete Surfacing Milling – Section 510**

“Concrete Surface Milling” – Square Yard or Station

**Cracking & Seating Concrete Pavement – Special Provision**

“Cracking &amp; Seating” – Square Yard (square meter)

**Diamond Grinding and Texturing Pavement – Special Provision**

“Diamond Grinding and Texturing Pavement” – Square Yard

**Earth Shoulder Construction – Section 304**

“Earth Shoulder Construction” – Station

*Shoulders are measured separately*

“Water” – MGal (kiloliter)

0.25 MGal/Sta (3.0 kL/Sta)

**Earth Shoulder Restoration – Special Provision***Use this item when the project has “Trenched Widening 1’ “ and 1 inch grade raise or less.**“ “ “ “ “ “ “ “ “Trenched Widening 3’ “ and 2 inch grade raise or less*

(unless Pavement Determination specifies differently or Earth Shoulder Construction is requested in the Plan-In-Hand).

“Earth Shoulder Restoration” – Station

*Shoulders are measured separately*

“Seeding, Type B” – Acre Use 8’ wide x length 1 Acre = 43,560 sqft

“Mulch” (Hay or Straw) – Ton 2.25 tons/acre

**Fabric Reinforcement Crack Repair – Section 518**

“Fabric Reinforcement Crack Repair” – Linear Feet (LF)

(See special provision for type of tack coat specified and application rate)

**Fly Ash Stabilized Bituminous – Special Provision**

“Fly Ash Stabilized Bituminous” – Station

“Fly Ash” – Ton (megagram)

12% weight of RAP

“Water for Fly Ash Stabilization” – Mgal (kiloliter)

5% weight of RAP &amp; Fly Ash

“Cold Milling, Class 2” – Station – Use if required in the “Pavement Determination”

“Fog Seal” – Gallon (liter) - See Note

0.24 Gal/yd<sup>2</sup>

Note: One application after the “FASB” Second application after the Cold Milling, Class 2 if required.

**Fog Seal – Section 513**

“Fog Seal” – Gallon (kiloliter) / CSS-1 &amp; CSS-1H

Factor for mainline &amp; shoulder

0.12 Gal/ yd<sup>2</sup> (0.54 L/m<sup>2</sup>)

Factor for open graded friction course

0.16 Gal/ yd<sup>2</sup> (0.72 L/m<sup>2</sup>)

Factor for milled surface of Asph. Conc.

0.07 Gal/ yd<sup>2</sup> (0.32 L/m<sup>2</sup>)

Factor for milled surface of Bit. Sand

0.10 Gal/ yd<sup>2</sup> (0.45 L/m<sup>2</sup>)

**Foundation Course – Section 307**

“Foundation Course \_\_\_\_\_” – Square Yard Note: Use this item for estimates.

*Note: Foundation Course calculated as total pavement footprint including bevel. Water calculated for pavement footprint plus 3' beyond. Plans show Foundation Course 3' beyond pavement footprint.*

“Bituminous Foundation Course \_\_\_\_\_” – Square Yard (square meter)

In place weight for 4"+1/4" trimming = 123 lb./ft<sup>3</sup> or 1.66 Tn/yd<sup>3</sup> (1.98 Mg/m<sup>3</sup>)

Stockpiled Bituminous = 1.43 Tn/yd<sup>3</sup>

“Crushed Concrete Foundation Course \_\_\_\_\_” – Square Yard (square meter)

In place weight for 4"+1/4" trimming = 0.190 Tn/yd<sup>2</sup> (100 mm + 5 mm trimming = 0.2079 Mg/m<sup>2</sup>)

Stockpiled crushed concrete = 1.35 Tn/yd<sup>3</sup> (1.61 Mg per m<sup>3</sup>)

Concrete Pavement in Place = [ yd<sup>3</sup> x 1.94 Tn/yd<sup>3</sup> x 90% (10% loss)] = tons of crushed concrete available  
 {[m<sup>3</sup> x 2.31 Mg/m<sup>3</sup> x 92% (8% loss)] = Mg of crushed concrete available}

“Aggregate Foundation Course “D” \_\_\_\_\_” - Square Yard (square meter)

“Aggregate Foundation Course \_\_\_\_\_” - Square Yard or Ton (square meter or megagram)

In place weight for 4"+1/4" trimming = (yd<sup>2</sup> x 0.2222 Tn/yd<sup>2</sup>) = Tons

[100 mm + 5 mm = (m<sup>2</sup> x 0.2415 Mg/m<sup>2</sup>) = Mg

“Crushed Rock Foundation Course \_\_\_\_\_” - Square Yard (square meter)

(Separation layer is subsidiary)

**Gravel Embedment – Special Provision**

“Gravel Embedment” – Station

“Gravel” – Cubic Yard (cubic meter) (Designer's item)

*Note: Design is usually 2" (50mm) gravel embedded in the upper 4" (100mm) & cap with 1" (25mm).*

**Granular Subdrains - Section 915**

“Granular Subdrains” – Each

**Surfacing Under Guardrail – Special Provision**

“Surfacing Under Guardrail” – Square Yard (square meter)

*Note: Pay item includes asphalt or concrete surface (contractor's option) and subgrade preparation.*

**High Friction Surface Treatment – Special Provision**

“High Friction Surface Treatment (1-Layer)” - SqYd

“High Friction Surface Treatment (2-Layer)” - SqYd

**Hot In-Place Recycling – Special Provision**

“Hot In-Place Recycling” – Station

“Emulsified Asphalt for Hot In-Place Recycling”-Gal 1.0% of RAP (2"x24'=69 (Gal/sta) (2"x28'=81Gal/sta)

Note: If width is anything other than 24', Special Provision Tape needs to be edited.

**Hydrated Lime Slurry Stabilization – Special Provision**

“Hydrated Lime Slurry Stabilization” – Station

“Hydrated Lime” – Ton 1.50% weight of RAP (4"x24'= 0.9 tons/sta) (5"x24'= 1.1 tons/sta)

“Emulsified Asphalt For HLSS”-Gal1.75% weight of RAP & Lime (4"x24'= 245 Gal/Sta) (5"x24')= 307(Gal/Sta)

“Fog Seal” – Gallon 0.10 Gal/yd<sup>2</sup>

Note: Growth factor approx. ¾" for a depth of 3" to 5". 1" for a depth of 6"

**Intersections and Driveways – Section 302 & Section 503**

“Preparation of Intersections and Driveways” – Square Yards (square meters)

“Placement of Asphaltic Concrete for Intersections and Driveways” – Square Yards (square meters)

*Note: Asphaltic concrete paid for by roadway tonnage or megagrams.*

**Joint Sealing Asphalt to Concrete – Section 508**

“Joint Sealing – Asphalt to Concrete” – Station (one side)

**Mailbox Turnouts – Section 912 & Special Provision**

“Preparation of Intersection and Drives” - Square Yard

“Placement of Drives and Intersections” - Square Yard

**Microsurfacing – Section 514**

“Microsurfacing Placement” - Station

“Aggregate for Microsurfacing” – Ton (megagram)

Rut: 2 lbs/SqYd per mm rut depth, 10 lbs min

Scratch Course + Seal Coat

Seal Coat: 20 lbs/SqYd

“Emulsified Asphalt for Microsurfacing” – Gallon (liter)

31 gallons per Ton of Aggregate

“Mineral Filler for Microsurfacing” – Ton

0.01 tons per Ton of Aggregate

*Note: Weight Factor is 6.6 Tn/100 ft<sup>3</sup> (2.1 Mg/m<sup>3</sup>)*

*Note: Lift thicknesses are ¼” and calculate rut depth if applicable.*

**Milling Concrete for Inlays – Section 510**

“Milling Concrete for Inlays” – Square Yard or Each

**Non-Woven Pavement Overlay Fabric – Special Provision**

“Non-Woven Pavement Overlay Fabric” – Square Yard

**Pavement Lifting And Stabilization With Polyurethane Foam – Special Provision**

“Pavement Lifting And Stabilization” – Pound

500lbs/Panel (lifting less than 3”)

1000lbs/Panel (lifting 3” or more)

**Performance Graded Binder (\*\* - \*\*) – Special Provision**

Use the table on page 8 to estimate the tons.

**Perforated Pipe Underdrain – Section 914**

“\_\_\_\_\_ Perforated Pipe Underdrain” – Linear Foot (LF)

“\_\_\_\_\_ Non-Perforated Pipe Underdrain” - Linear Foot (LF)

(granular material and fabric are subsidiary)

**Removal and Processing of Concrete Pavement – Section 312****Shoulder Subgrade Preparation – Section 302**

“Shoulder Subgrade Preparation” – Station

“Water” – MGallon (kiloliter)

0.5 MGal/Sta (6.0 kL/Sta)

*Note: Shoulders are measured separately*

*Earth Shoulder Construction is Subsidiary*

**Special Surface Course – Special Provision**

*Note: Use this item if placing millings on driveways or under guardrail*

“Special Surface Course” – Square Yard (square meter)

“Fog Seal” – Gallon

2 applications, 0.20 Gal/yd<sup>2</sup> for soil and 0.30 Gal/yd<sup>2</sup> for the surface

(liter)

(2 applications, 0.91 L/m<sup>2</sup> for soil and 1.36 L/m<sup>2</sup> for the surface)

**Stress Absorbing Fiberglass Layer with Emulsified Asphalt (SAFLEA) – Special Provision**

Added item summer of 2017

“Stress Absorbing Fiberglass Layer with Emulsified Asphalt” – Square Yard (square meter)

“Armor Coat Emulsified Asphalt” – Gal (liter) 0.44 Gal/yd<sup>2</sup>

“Armor Coat Aggregate” – Cubic Yard (cubic meter) 32 lb/yd<sup>2</sup> conversion factor 1.3 tons = 1 yd<sup>3</sup>

**Subgrade Preparation – Section 302**

“Subgrade Preparation” – Station or Square Yard (square meter)

“Water” – MGallon (kiloliter) 1.0 MGal/Sta (12.0 kL/Sta) or 0.003 MGal/yd<sup>2</sup> (0.014 kL/m<sup>2</sup>)

*Note: Subgrade Preparation calculated as total pavement footprint including bevel. Water calculated for pavement footprint plus 3' beyond. Plans show Subgrade Preparation 3' beyond pavement footprint.*

**Subgrade Preparation for Widening – Special Provision**

*Note: Use for concrete pavement widening*

“Subgrade Preparation for Widening” – Station (one side)

“Water” – MGallon (kiloliter) 0.5 MGal/Sta (6.0 kL/Sta)

**Subgrade Stabilization – Section 303**

“Subgrade Stabilization” – Station or Square Yard (square meter)

“Soil Binder” – Cubic Yard (cubic meter) 12.5 yd<sup>3</sup>/Sta or (6" x 30') [31 m<sup>3</sup>/Sta for (150mm x 9m)]

“Water” – MGallon (liter) 1 MGal/Sta or 0.003 MGal/yd<sup>2</sup> (12.0 kL/Sta or 0.014 kL/m<sup>2</sup>)

*Subgrade Stabilization calculated as total pavement footprint including bevel. Soil Binder and Water calculated for pavement footprint plus 3' beyond. Plans show Subgrade Stabilization 3' beyond pavement footprint.*

**Surfacing – Special Provision**

“Surfacing“\_\_\_\_\_” – Square Yard (square meter)

*Note: Contractor's choice for pavement type, asphaltic concrete or portland cement concrete.*

**Surfacing Under Guardrail – Special Provision**

“Surfacing Under Guardrail” – Square Yard

**Stabilized Subgrade (8" depth) – Special Provision**

“Stabilized Subgrade Type Cement” – Square Yard used if granular content is high for a variety of Pls  
 “Cement” – Ton 27 lbs/yd<sup>2</sup> cement quantity is \*\* 4% of soil tons

“Stabilized Subgrade Type Fly Ash” – Square Yard use if PI of soil is 19 or less  
 “Fly Ash” – Ton 66 lbs/yd<sup>2</sup> fly ash quantity is \*\*10% of soil tons

“Stabilized Subgrade Type Lime” – Square Yard use if PI of soil is 20 or more  
 “Hydrated Lime” – Ton 33 lbs/yd<sup>2</sup> hydrated lime quantity is \*\*5% of soil tons

“Water” – MGallon 1 MGal/Sta or 0.003 Mgal/yd<sup>2</sup>

*Note: Stabilized Subgrade Type \_\_\_ calculated as total pavement footprint including bevel. Cement, Fly Ash, Hydrated Lime, and Water calculated for pavement footprint plus 3' beyond. Plans show Stabilized Subgrade Type “\_\_\_” 3' beyond pavement footprint.*

*\*\*Soil weight compacted in place, 110 lbs/ft<sup>3</sup>*

**Tack Coat – Section 504**

“Tack Coat” – Gallon (liter)

Factor for existing surface 0.150 Gal/yd<sup>2</sup> (0.680 L/m<sup>2</sup>)

Factor for between lifts 0.050 Gal/yd<sup>2</sup> (0.230 L/m<sup>2</sup>)

**Temporary Surfacing – Special Provision**

“Temporary Surfacing “\_\_\_\_\_” – Station or Square Yard (square meter)

*Note: Contractor’s choice for pavement type, asphaltic concrete or portland cement concrete.*

*Note: Subgrade Preparation, earth shoulder construction, water applied, and removal are subsidiary.*

**Trenched Widening 1’– Special Provision**

“Trenched Widening 1’ ” – Station

*Measured separately - one side*

Note: Include “Earth Shoulder Construction” or  
“Earth Shoulder Restoration”

**Trenched Widening 3’– Special Provision**

“Trenched Widening 3’ ” – Station

*Measured separately – one side*

Note: Include “Earth Shoulder Construction” or  
“Earth Shoulder Restoration”

**Widening – Special Provision**

“Widening” – Station

Measured separately.

**Ultra Thin Bonded Asphalt Wearing Course – Special Provision**

“Ultra Thin Bonded Asphalt Wearing Course” – Ton

“Performance Graded Binder “\_\_\_\_\_” - \_\_\_\_\_ Ton

“UTBAWC” will be SLX, as noted in the “Pavement Determination”

*Note: Do not pay for Tack Coat*

**Performance Graded Binder (\*\*-\*\*) Table**

Min - Max Rap Section 1028.02	Asph. Conc. Type	PG Binder (**-**) Type	Gradation bands (0.5) multiply Asph. Conc. tonnage by	Gradation bands (0.375) multiply Asph. Conc. tonnage by	Gradation bands (0.19) multiply Asph. Conc. tonnage by
	GGCRM	Check with Bob Rea	8.5%	NA	NA
	GGCRMLV	Check with Bob Rea	8.5%	NA	NA
25%	LC	(58E-34)	NA	NA	5.5%
0%	LC-S	(58E-34)	NA	NA	6.5%
20% - 35%	SLX Special Cases	(58V-34) (58E-34)	NA NA	4.2% 4.2 %	NA NA
0% - 50%	SPR	(58H-34)	3.4%	NA	NA
0% - 65%	SPS	(58S-34)	3.2%	NA	NA
0% - 25%	SPH	(58H-34)	3.8%	3.8%	NA
0% - 65%	SRM	(58H-34)	2.8%	NA	NA

*From Bob Rea September 2020 Virgin Mix use 6.5 % for LC, 5.8% for SLX, 5.4% for SPR and 5.4% for SPS*

1" SLX thin lifts - add 15% to asphalt tons for slope and profile correction.

**Hydrated Lime / Warm Mix Asphalt**

Example: If you have 10534 tons of Asphaltic Concrete Type "SPR" there will be 10534 Each of "Hydrated Lime/WMA".

Asph. Conc. Type	"Hydrated Lime/WMA" Pay item is "Each" multiply tons of asphalt by
GGCRM	1
GGCRNLV	1
LC	1
SLX	1
SPR	1
SPS	NA
SPH	1
SRM	1

# Asphaltic Concrete Tonnage Table

## Asphaltic Concrete Types

Inches	Bit	Bit				LC		SPS	SPR	
	Sand	Fnd	OGFCCRMM	GGCRM	GGCRMLV	LC-S	SLX	SPH	SRM	
	Crse	Crse								
	<b>Tons per 100 Cubic Feet</b>									
	6.0	6.2	6.3	6.75	6.95	7.15	7.25	7.30	7.35	7.40
	<b>Pounds per Cubic Foot</b>									
	120	124	126	135	139	143	145	146	147	148
	<b>Tons/SY/Inch</b>									
<b>1</b>	<u>0.045</u>	<u>0.050</u>	<u>0.050</u>	<u>0.051</u>	<u>0.052</u>	<u>0.054</u>	<u>0.054</u>	<u>0.055</u>	<u>0.055</u>	<u>0.055</u>
<b>1.5</b>										
<b>2</b>	<u>0.090</u>	<u>0.093</u>	<u>0.095</u>	<u>0.101</u>	<u>0.104</u>	<u>0.107</u>	<u>0.109</u>	<u>0.110</u>	<u>0.110</u>	<u>0.111</u>
<b>2.5</b>										
<b>3</b>	<u>0.135</u>	<u>0.140</u>	<u>0.141</u>	<u>0.151</u>	<u>0.156</u>	<u>0.161</u>	<u>0.163</u>	<u>0.164</u>	<u>0.165</u>	<u>0.166</u>
<b>3.5</b>										
<b>4</b>	<u>0.180</u>	<u>0.186</u>	<u>0.189</u>	<u>0.202</u>	<u>0.208</u>	<u>0.214</u>	<u>0.218</u>	<u>0.219</u>	<u>0.221</u>	<u>0.222</u>
<b>4.5</b>										
<b>5</b>	<u>0.225</u>	<u>0.233</u>	<u>0.236</u>	<u>0.253</u>	<u>0.260</u>	<u>0.268</u>	<u>0.272</u>	<u>0.274</u>	<u>0.276</u>	<u>0.278</u>
<b>5.5</b>										
<b>6</b>	<u>0.270</u>	<u>0.279</u>	<u>0.284</u>	<u>0.303</u>	<u>0.313</u>	<u>0.322</u>	<u>0.326</u>	<u>0.329</u>	<u>0.331</u>	<u>0.333</u>
<b>6.5</b>										
<b>7</b>	<u>0.315</u>	<u>0.326</u>	<u>0.331</u>	<u>0.354</u>	<u>0.365</u>	<u>0.375</u>	<u>0.381</u>	<u>0.383</u>	<u>0.386</u>	<u>0.388</u>
<b>8</b>	<u>0.360</u>	<u>0.372</u>	<u>0.378</u>	<u>0.405</u>	<u>0.417</u>	<u>0.429</u>	<u>0.435</u>	<u>0.438</u>	<u>0.441</u>	<u>0.444</u>
<b>9</b>	<u>0.405</u>	<u>0.419</u>	<u>0.425</u>	<u>0.456</u>	<u>0.469</u>	<u>0.483</u>	<u>0.489</u>	<u>0.493</u>	<u>0.496</u>	<u>0.500</u>
<b>10</b>	<u>0.450</u>	<u>0.465</u>	<u>0.473</u>	<u>0.506</u>	<u>0.521</u>	<u>0.536</u>	<u>0.544</u>	<u>0.548</u>	<u>0.551</u>	<u>0.555</u>

## Asphaltic Concrete Megagram Table

### Asphaltic Concrete Types

Bit Sand Base <u>Crse</u>	Bit Fnd <u>Crse</u>	<u>LC</u> <u>LC-S</u>	SRM <u>SLX</u>	<u>SPH</u> <u>SPS</u>	SPR HRB
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#### Megagrams per Cubic Meter

1.922	1.986	2.291	2.323	2.339	2.355	2.371
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#### Megagram per Square Meter - Millimeter

mm	<u>0.0250</u>	<u>0.0258</u>	<u>0.0298</u>	<u>0.0302</u>	<u>0.0304</u>	<u>0.0306</u>	<u>0.0308</u>
13	<u>0.0250</u>	<u>0.0258</u>	<u>0.0298</u>	<u>0.0302</u>	<u>0.0304</u>	<u>0.0306</u>	<u>0.0308</u>
25	<u>0.0481</u>	<u>0.0497</u>	<u>0.0573</u>	<u>0.0581</u>	<u>0.0585</u>	<u>0.0589</u>	<u>0.0593</u>
30	<u>0.0577</u>	<u>0.0596</u>	<u>0.0687</u>	<u>0.0697</u>	<u>0.0702</u>	<u>0.0707</u>	<u>0.0712</u>
40	<u>0.0770</u>	<u>0.0795</u>	<u>0.0916</u>	<u>0.0929</u>	<u>0.0936</u>	<u>0.0942</u>	<u>0.0948</u>
45	<u>0.0865</u>	<u>0.0904</u>	<u>0.1031</u>	<u>0.1045</u>	<u>0.1053</u>	<u>0.1060</u>	<u>0.1067</u>
50	<u>0.0962</u>	<u>0.0994</u>	<u>0.1146</u>	<u>0.1162</u>	<u>0.1170</u>	<u>0.1178</u>	<u>0.1186</u>
60	<u>0.1154</u>	<u>0.1193</u>	<u>0.1375</u>	<u>0.1394</u>	<u>0.1404</u>	<u>0.1414</u>	<u>0.1424</u>
80	<u>0.1539</u>	<u>0.1590</u>	<u>0.1833</u>	<u>0.1858</u>	<u>0.1872</u>	<u>0.1885</u>	<u>0.1898</u>
90	<u>0.1732</u>	<u>0.1789</u>	<u>0.2062</u>	<u>0.2091</u>	<u>0.2106</u>	<u>0.2120</u>	<u>0.2134</u>
100	<u>0.1924</u>	<u>0.1988</u>	<u>0.2291</u>	<u>0.2323</u>	<u>0.2340</u>	<u>0.2356</u>	<u>0.2370</u>
105	<u>0.2018</u>	<u>0.2085</u>	<u>0.2406</u>	<u>0.2439</u>	<u>0.2456</u>	<u>0.2473</u>	<u>0.2490</u>
120	<u>0.2309</u>	<u>0.2386</u>	<u>0.2749</u>	<u>0.2788</u>	<u>0.2808</u>	<u>0.2827</u>	<u>0.2846</u>
130	<u>0.2501</u>	<u>0.2584</u>	<u>0.2978</u>	<u>0.3020</u>	<u>0.3042</u>	<u>0.3063</u>	<u>0.3084</u>
135	<u>0.2595</u>	<u>0.2681</u>	<u>0.3093</u>	<u>0.3136</u>	<u>0.3158</u>	<u>0.3179</u>	<u>0.3218</u>
150	<u>0.2886</u>	<u>0.2982</u>	<u>0.3437</u>	<u>0.3485</u>	<u>0.3510</u>	<u>0.3534</u>	<u>0.3558</u>
180	<u>0.3463</u>	<u>0.3578</u>	<u>0.4124</u>	<u>0.4181</u>	<u>0.4212</u>	<u>0.4241</u>	<u>0.4270</u>
205	<u>0.3940</u>	<u>0.4071</u>	<u>0.4697</u>	<u>0.4762</u>	<u>0.4795</u>	<u>0.4878</u>	<u>0.4961</u>
230	<u>0.4425</u>	<u>0.4572</u>	<u>0.5269</u>	<u>0.5343</u>	<u>0.5382</u>	<u>0.5419</u>	<u>0.5456</u>
255	<u>0.4901</u>	<u>0.5064</u>	<u>0.5842</u>	<u>0.5924</u>	<u>0.5964</u>	<u>0.6005</u>	<u>0.6046</u>
280	<u>0.5387</u>	<u>0.5566</u>	<u>0.6415</u>	<u>0.6504</u>	<u>0.6552</u>	<u>0.6597</u>	<u>0.6642</u>
305	<u>0.5862</u>	<u>0.6057</u>	<u>0.6988</u>	<u>0.7085</u>	<u>0.7134</u>	<u>0.7183</u>	<u>0.7232</u>
330	<u>0.6343</u>	<u>0.6554</u>	<u>0.7560</u>	<u>0.7666</u>	<u>0.7719</u>	<u>0.7772</u>	<u>0.7825</u>
355	0.6823	0.7050	0.8133	0.8247	0.8303	0.8360	0.8417