ITEM 402.19510125 – 19 F1 BINDER COURSE HMA, 50 SERIES COMPACTION
ITEM 402.19511125 – PLANT PRODUCTION QUALITY ADJUSTMENT TO ITEM 402.19510125
ITEM 402.19512125 – PAVEMENT DENSITY QUALITY ADJUSTMENT TO ITEM 402.19510125

1. DESCRIPTION:

1.01 All of the requirements of Section 401 – Plant Production and Section 402 – Hot Mix Asphalt (HMA) Pavements shall apply, except as modified or revised by the special requirements given in this specification.

2. MATERIAL:

2.01 In Subsection 401-2.02; **Subsection A. Coarse Aggregate Type F1 Conditions** shall be **DELETED** and **SUBSTITUTE** the following:

"A. 19.0 NMAS Coarse Aggregate Type F1 Conditions

1. Limestone, dolomite, or a blend of the two (2), having an acid insoluble residue content of not less than 20.0%.
2. Sandstone, granite, chert, traprock, ore tailings, slag or other similar noncarbonate materials.
3. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag or other similar materials, meeting the following requirements:

   19.0 Nominal Maximum Size Aggregate Mixes. Noncarbonate plus ⅛" particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus 3/8" particles must be noncarbonate."

2.02 In Subsection 401-2.02; **Subsection B. Coarse Aggregate Type F2 Conditions** shall be **DELETED** and **SUBSTITUTE** the following:

"B. 19.0 NMAS Coarse Aggregate Type F2 Conditions

1. Limestone, dolomite, or a blend of the two (2), having an acid insoluble residue content of not less than 20.0%.
2. Sandstone, granite, chert, traprock, ore tailings, slag or other similar noncarbonate materials.
3. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag or other similar materials, meeting the following requirements:
   19.0 Nominal Maximum Size Aggregate Mixes. Noncarbonate plus ⅛" particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus 3/8"particles must be noncarbonate."

3. CONSTRUCTION DETAILS:

3.01 In Subsection 401-3.04; the last sentence of Subsection **B.7 Friction Aggregate** shall be **DELETED** and **SUBSTITUTE** the following:

"Perform sampling and testing of friction aggregate at the production facility using procedures outlined in NYSDOT MM 28 as amended by the following addendums to MM 28 tables: Table 2a, Table 4, Table 6, Table 7a, Table 7c and Table 7d.

Table 2a Addendum – Quality Control Sample Types (HMA)

Mixture Type	Facility Type	Aggregates	Sample Type	Calculation Section (1)
19.0	Batch Plant	Coarse Aggregate	No. 2 & No.1 & No.1A Hot Bins	IX.A.1
			Composite Mixture	IX.B.1
	Drum Plant	Coarse Aggregate	Composite Aggregate or Mixture	IX.B.1

Table 4 Addendum – HMA Quality Assurance Sample Sizes			
Mix Type	**Size**	**Sample Size**	
		Hot Bin	**Composite**
19.0	No. 2 Stone	1 gal	1 ½ gal
	No. 1 Stone	1 qt	
	No.1A Stone	1 qt	

Table 6 Addendum – Surface Course Samples		
Surface Course (1)	**Evaluation Procedure**	**Sample Size**
19.0 HMA	% Noncarbonate	Three 6” Cores
	% Acid-insoluble	One 6” Core

Table 7a Addendum – Quality Control Test Specimens for HMA Plants							
Aggregate Type	**Testing Organization**	**Mix Sample Type** (1)		**Required Sizes (in)**		**Specimen Size** (2)	**Required Test**
Noncarbonate Blends – Plant Blended or Containing RAP	HMA Producer	19.0 Composite		-1 ½	+3/8	1200 g	Percent Noncarbonate
				-3/8	+1/8	150 g	
		19.0 Hot Bin	No.2 Hot Bin	-1 ½	+3/8	1200 g	
			No.1 Hot Bin	-3/4	+3/8	300 g	
				-3/8	+1/8	150 g	
			No.1A Hot Bin	-3/8	+1/8	50 g	
High-residue and Cherty Carbonates – Naturally Occurring, Plant Blended or Containing RAP	HMA Producer	19.0 Composite		-1 ½	+1/8	800 g (10)	Percent Acid-insoluble (12)
		19.0 Hot Bin	No.2 Hot Bin	-1 ½	+1/8	800 g (10)	
			No.1 Hot Bin	-3/4	+1/8	200 g	
			No.1A Hot Bin	-3/8	+1/8	50 g	

Table 7c Addendum – Quality Control Test Specimens for Aggregate Sources (11)							
Aggregate Type	**Aggregates Supplied for**	**Mix Size and Sample Type**		**Required Sizes (in)**		**Specimen Size** (2)	**Required Test**
Noncarbonate Blends – Gravel, Quarry Blended, or All Others	HMA	All	No.2 Stockpile	-1 ½	+3/8	1200 g	Percent Noncarbonate
				-3/8	+1/8	150 g	
			No.1 Stockpile	-3/4	+3/8	300 g	
				-3/8	+1/8	150 g	
			No.1A Stockpile	-3/8	+No.4	150 g	
				-No.4	+1/8	50 g	
			No.1B Stockpile (7)	-3/8	+No.4	150 g	
				-No.4	+No.8	50 g	

Table 7c Addendum (Cont'd**) – Quality Control Test Specimens for Aggregate Sources** (11)						
Aggregate Type	**Aggregates Supplied for**	**Mix Size and Sample Type**		**Required Sizes (in)**	**Specimen Size** (2)	**Required Test**
High-residue and Cherty Carbonates – Naturally Occurring, Quarry Blended or All Others	HMA	All	No.2 Stockpile	-1 ½ +1/8	800 g (10)	Percent Acid-insoluble (12)
			No.1 Stockpile	-3/4 +1/8	200 g	
			No.1A Stockpile	-3/8 +1/8	50 g	
			No.1B Stockpile (7)	-3/8 +No.8	50 g	

Table 7d Addendum – Quality Assurance Test Specimens for HMA Plants						
Aggregate Type	**Testing Organization**	**Mix and Sample Type** (1)		**Required Sizes (in)**	**Specimen Size** (2)	**Required Test**
Noncarbonate Blends – Plant Blended or Containing RAP	NYSDOT	19.0 Composite		-1 ½ +3/8	1200 g	Percent Noncarbonate
				-3/8 +1/8	150 g	
		19.0 Hot Bin	No.2 Hot Bin	-1 ½ +3/8	1200 g	
			No.1 Hot Bin	-3/4 +3/8	300 g	
				-3/8 +1/8	150 g	
			No.1A Hot Bin	-3/8 +1/8	50 g	
High-residue and Cherty Carbonates – Naturally Occurring, Plant Blended or Containing RAP	NYSDOT	19.0 Composite		-1 ½ +1/8	800 g (10)	Percent Acid-insoluble (12)
		19.0 Hot Bin	No.2 Hot Bin	-1 ½ +1/8	800 g (10)	
			No.1 Hot Bin	-3/4 +1/8	200 g	
			No.1A Hot Bin	-3/8 +1/8	50 g	

3.02 Appended "AMENDED NYSDOT Form 'BR57' - Determination of Percent Noncarbonate Particles in 19.0 NMAS Top Course Mixtures from Hot Bin Samples" is to be used to record the "Percent Noncarbonate" test results for both "Composite Samples" and "Hot Bin Samples" of 19.0 NMAS Top Course mixes.

4. METHOD OF MEASUREMENT:

4.01 The requirements of Section 401-4 – Method of Measurement and Section 402-4 – Method of Measurement shall apply.

5. BASIS OF PAVEMENT:

5.01 In Subsection 402-5 – Basis of Payment; the last section of the "Basis of Payment" beginning with "*Payment will be made under*:" and containing all of the Section 402 pay items shall be **DELETED** and **SUBSTITUTE** the following:

"*Payment will be made under*:

Item No.	Item	Pay Unit
402.19510125	19 F1 Binder Course HMA, 50 Series Compaction	Ton
402.19511125	Plant Production Quality Adjustment to 402.19510125	Quality Unit
402.19512125	Pavement Density Quality Adjustment to 402.19510125	Quality Unit

NYSTA **AMENDED NYSDOT FORM "BR 57":**
BR57TWY **Determination of Percent Noncarbonate Particles**
(11/10) **in 19.0 NMAS Top Course Mixtures from Hot Bin Samples**

PRODUCER:		
PRODUCER LOCATION:	FACILITY NO.:	
REGION:	SOURCE No.:	SOURCE No.:
OTHER:		

Mix Code / Type:	JMF MIX/No.:	PLANT LOT No.:	SUBLOT:	DATE SAMPLED:
BR 3 SERIAL No.	TESTED BY:			TIME SAMPLED:

Determination of Noncarbonate Content on Each Sieve

Sieve	No. 2 Hot Bin						No. 1 Hot Bin or Composite						No. 1A Hot Bin					
	W_o	W_x	W_{xs} (1)	$\%R_{x\_2bin}$	W_{NC}	$\%NC_{x\_2bin}$	W_o	W_x	W_{xs} (1)	$\%R_{x\_1bin}$	W_{NC}	$\%NC_{x\_1bin}$	W_o	W_x	W_{xs} (1)	$\%R_{x\_1Abin}$	W_{NC}	$\%NC_{x\_1Abin}$
Sizes	a	b	c	d=b/a(100)	e	f=e/c(100)	g	h	i	k=h/g(100)	m	n=m/l(100)	o	p	q	r=p/o(100)	s	t=s/q(100)
3/8 in.																		
1/8 in.																		

W_o = Mass of sample prior to gradation analysis
W_x = Mass of material retained on Sieve x
W_{xs} = Mass of split sample before noncarbonate analysis
$\%R_{x\_ybin}$ = Percent of Wo on sieve x from y bin
W_{NC} = Mass of noncarbonate particles
$\%NC_{x\_ybin}$ = Percent of W_{xs} from bin y that is noncarbonate particles
%B - Batch percentage (of total aggregate) from the appropriate stone size
Note: Use all percentages in decimal form when performing calculations

Determination of Noncarbonate Content of Aggregate Larger than 3/8 in.

Batching Percentages		+ 3/8 in Aggregate		+3/8 in Noncarbonate Aggregate		Noncarbonate Content of + 3/8 in Aggregate
		From No. 1 Hot Bin	From No. 2 Hot Bin	From No. 1 Hot Bin	From No. 2 Hot Bin	
$\%B_1$	$\%B_2$	$(K_{3/8})(u)$	(d)(v)	$(n_{3/8})(w)$	(f)(x)	(y+z) / (w+x)(100)
u	v	w	x	y	z	

Determination of Noncarbonate Content of Total Aggregate

Noncarbonate + 1/8 in From the No. 1A Hot Bin		Noncarbonate + 1/8 in From the No. 1A Hot Bin	%NC of Total Aggregate
$\%B_{1A}$	(r)(t)(aa)	$(k_{1/8})(n_{1/8})(u)$	(y + z+ bb + cc) (100)
aa	bb	cc	

(1) When W_x is of an appropriate size for testing (the sample does not need to be further reduced), enter the value of W_x under both W_x and W_{xs}