AC GAUGE OFFSET, AS PER PLAN

FOLLOW 403, EXCEPT AS FOLLOWS:

- OFFSET THE AC GAUGE FOR EACH JMF FOR THE PROJECT PRIOR TO THE PROJECT'S START USING 403.06.A. AND THE MODIFIED SUPPLEMENT 1043 PROCEDURE BELOW.

- DURING S-1043.07 PROCESS, A RAP SAMPLE OBTAINED FROM THE JMF-DESIGNATED RAP PILE WILL BE EXTRACTED IN THE ASPHALT LEVEL 3 LAB TO VERIFY THE RAP AC PERCENT. THE RAP AC PERCENT WILL BE WITHIN 0.5 PERCENT OF THE AVERAGE RAP AC PERCENT FROM THE JMF. IF RAP AC PERCENT IS OUTSIDE OF THE 0.5 PERCENT, THE VERIFICATION PAN PROCESS WILL STOP, AND DISTRICT TESTING WILL ALLOW ONE OPPORTUNITY TO REWORK THE RAP PILE AT THE MIX PLANT AND RESAMPLE. RESAMPLING REQUIRES DISTRICT TESTING TO BE PRESENT. IF THE RESAMPLE IS STILL OUTSIDE OF THE 0.5 PERCENT, THE JMF AND ALL JMF'S USING THIS PILE WILL BE RESCINDED AND NEED TO BE REDESIGNED.

FOLLOW 403.06 EXCEPT AS FOLLOWS:

- ENSURE ASPHALT BINDER CONTENT DOES NOT EXCEED TABLE 403.06.G-1. TOTAL AC PERCENT ADJUSTMENTS TO THE MIX PLANT CONTROL SETTINGS MUST BE SUBMITTED TO AND APPROVED BY DISTRICT TESTING PRIOR TO MAKING THE ADJUSTMENT. THE ADJUSTMENT CANNOT EXCEED +/- 0.2 PERCENT FROM THE JMF DESIGN AC PERCENT. DO NOT LOWER VIRGIN BINDER CONTENT OR INCREASE RAP PERCENT. ENSURE PLANT TICKET SHOWS THE ADJUSTMENT AND IS SET TO THE ADJUSTED TOTAL AC PERCENT AT ALL TIMES AFTERWARDS.

- RECORD THE DAILY VERIFICATION PAN RESULTS IN A SEPARATE WORKSHEET AND MAKE SURE IT'S POSTED IN THE PLANT FACILITY AND AVAILABLE TO THE MONITORS. INCLUDE THE DATE RAN, VERIFICATION PAN RESULT, AND INITIALS OF WHO RAN IT. ENSURE A PRINTOUT OF THE DAILY VERIFICATION PAN IS ALSO INCLUDED WITH THE TE-199.

FOLLOW SUPPLEMENT 1043 FOR AC GAUGE OFFSET, EXCEPT AS MODIFIED BELOW:

- FOLLOW 1043.07 EXCEPT AS FOLLOWED:

- NOTIFY DISTRICT TESTING A MINIMUM OF ONE WEEK PRIOR TO MAKING CALIBRATION AND VERIFICATION PANS.

- DISTRICT TESTING WILL WITNESS A SOLVENT EXTRACTION FROM A SAMPLE FROM THE RAP PILE THAT IS TO BE USED IN THE JMF TO VERIFY THE RAP AC PERCENT AND GRADATION. RAP AC PERCENT WILL BE WITHIN 0.5 PERCENT OF RAP AC PERCENT AND THE PASSING THE NO. 4 SIEVE WITH BE WITHIN 5 PERCENT OF THE NO. 4 SIEVE BASED ON THE ESTABLISHED RAP PILE USED IN THE JMF. IF OUTSIDE OF 0.5 PERCENT, DO NOT PROCEED AND THE JMF WILL NEED TO BE REDESIGNED.

- DISTRICT TESTING WILL WITNESS THE VERIFICATION PANS BEING BLENDED, MIXED, AND COMPACTED.

- MAKE A MINIMUM OF THREE VERIFICATION PANS FOR THE JMF THAT ARE AT THE JMF ASPHALT BINDER CONTENT. MAKE ONE ADDITIONAL VERIFICATION PAN FOR EACH ADDITIONAL DISTRICT THE JMF WILL BE USED IN.

- IN ADDITION, TURN POSSESSION OVER OF THE CALIBRATION AC GAUGE PANS USED TO DETERMINE THE FIT COEFFICIENT TO DISTRICT TESTING.

- FOR AC CONTENT PAY ACCEPTANCE, REPLACE 1043.08 WITH THE FOLLOWING:

AC GAUGE OFFSET, AS PER PLAN (CONTINUED)

CALCULATE AN AC GAUGE OFFSET AMOUNT FOR EACH JMF AND MIX PLANT IN ACCORDANCE WITH THE FOLLOWING PROCEDURE PRIOR TO START OF ANY PRODUCTION FOR THE JMF. NOTIFY DISTRICT TESTING 24 HOURS PRIOR TO OFFSETTING GAUGE.

1. ENSURE PRINTER IS ON AND PLACE THE FIRST VERIFICATION PAN IN THE AC GAUGE AND RUN.

2. AFTER THE 16-MINUTE TEST, TAKE THE VERIFICATION PAN OUT AND TURN 180 DEGREES AND PLACE BACK IN AC GAUGE AND RUN.

3. REPEAT STEPS 1 AND 2 WITH SECOND AND THIRD VERIFICATION PANS.

4. FOR EACH RUN, TAKE THE JMF ASPHALT BINDER CONTENT MINUS THE AC GAUGE AC PERCENT TO OBTAIN THE OFFSET FOR THAT RUN.

5. AVERAGE ALL OFFSETS FOR A FINAL OFFSET.

6. RETAIN ALL OF THE VERIFICATION PANS. AFTER THE FINAL OFFSET IS DETERMINED, DISTRICT TESTING WILL CHOOSE TWO OF THE VERIFICATION PANS AND SEND ONE OF THESE TWO TO OMM TO EXTRACT AND REFLUX.

7. DISTRICT TESTING WILL USE THE TWO VERIFICATION PANS TO OFFSET THEIR AC GAUGE. DISTRICT TESTING MAY OPT TO TAKE ALL THREE PANS AND OFFSET THEIR AC GAUGE.

8. STORE THE VERIFICATION PAN IN THE PLANT LAB AND IN A MANNER IN WHICH TO AVOID HUMIDITY, MOISTURE, AND ALL OTHER SOURCES WHICH MAY POTENTIALLY CONTAMINATE THE SAMPLE IN THE PAN. BEFORE THE BEGINNING OF A PRODUCTION DAY, RUN THE VERIFICATION PAN IN THE AC GAUGE AND ENSURE THE OFFSET AC GAUGE AMOUNT IS WITHIN 0.14 PERCENT OF THE JMF ASPHALT BINDER CONTENT. NOTIFY THE DEPARTMENT IF THE AC GAUGE EXCEEDS 0.14 PERCENT OF THE JMF. IF THE VERIFICATION PAN EXCEEDS ON THE HIGH SIDE AND IT'S BELIEVED TO BE DUE TO EXCESS MOISTURE FROM HUMIDITY, THE DEPARTMENT MAY ALLOW THE VERIFICATION PAN TO BE PLACED IN AN OVEN AT 230 DEG F (110 DEG C) FOR ONE HOUR AND RERAN. DURING THE START OF PRODUCTION FOR THE JMF, SOLVENT EXTRACT THE FIRST TWO QA SAMPLES (QC, VA, AND SUBLOT) AND COMPARE TO THE OFFSET AC GAUGE. ENSURE SOLVENT EXTRACTION IS WITHIN 0.3 PERCENT OF OFFSET AC GAUGE. IF MORE THAN 0.3 PERCENT OFF, IMMEDIATELY RESAMPLE AND RUN AC GAUGE AND SOLVENT EXTRACT IMMEDIATELY. IF TWO CONSECUTIVE SAMPLES ARE MORE THAN 0.3 PERCENT OFF, IMMEDIATELY STOP PRODUCTION, CONTACT MONITORING TEAM, AND INVESTIGATE THE REASON FOR THE PROBLEM. ONCE TWO CONSECUTIVE QA SAMPLES ARE WITHIN 0.3 PERCENT OF OFFSET AC GAUGE, THE FINAL OFFSET GAUGE IS CONFIRMED.

AFTER CONFIRMING THE AC GAUGE OFFSET AMOUNT PROCEED WITH DETERMINING AC CONTENTS OF PRODUCTION SAMPLES BY THE AC GAUGE ACCORDING TO 1043.09. ONLY DETERMINE ONE AC GAUGE OFFSET AMOUNT PER JMF. IF MORE THAN 30 DAYS HAS LAPSED SINCE THE JMF WAS LAST TESTED, RE-DO THE OFFSET PROCEDURE ABOVE WITH TWO VERIFICATION PANS (ONE FROM THE CONTRACTOR AND ONE FROM THE DISTRICT). IF THE THIRD PAN IS STILL AVAILABLE, USE ALL THREE PANS. IF AN AC GAUGE OFFSET AMOUNT IS LATER DETERMINED, BY AN INVESTIGATION OF BOTH THE CONTRACTOR AND THE DISTRICT, TO BE INCORRECT RE-DO THE OFFSET PROCEDURE.

APP FOR BALANCED MIX DESIGN APPROACH B: 2027 PROJECTS

FOLLOW ALL REQUIREMENTS OF THE SPECIFICATIONS WITH THE ADDITION OF THE FOLLOWING:

DETERMINE A MIX DESIGN FOLLOWING THE REQUIREMENTS OF 440 AND INCLUDE THE FOLLOWING ADDITIONAL TESTS. PERFORM EACH TEST AT OPTIMUM TOTAL ASPHALT BINDER CONTENT (OBC), -0.3 OBC, AND +0.3 OBC ADJUSTING ONLY THE VIRGIN ASPHALT BINDER CONTENT.

PERFORM THE IDEAL-CT SHORT-TERM OVEN AGING (STOA) FOR THE MIX DESIGN SUBMITTAL PER SUPPLEMENT 1033 ON EACH ASPHALT BINDER CONTENT AND ENSURE THE MINIMUM IN THE TABLE BELOW IS MET FOR THE MIX TYPE. PROVIDE RESULTS PER SUPPLEMENT 1033 WITH THE MIX DESIGN.

PERFORM THE IDEAL-CT LONG-TERM OVEN AGING (LTOA) FOR THE MIX DESIGN SUBMITTAL PER SUPPLEMENT 1033 ON EACH ASPHALT BINDER CONTENT. THE IDEAL-CT LTOA RESULTS ARE FOR INFORMATION ONLY. THE IDEAL-CT LTOA ONLY NEEDS TO BE RUN FOR MIX DESIGN ACCEPTANCE. PROVIDE RESULTS PER SUPPLEMENT 1033 WITH THE MIX DESIGN.

PERFORM THE HAMBURG WHEEL TRACKING TEST (HWTT) PER AASHTO T 324 AT 50 DEG C FOR 20,000 PASSES USING STOA PER SUPPLEMENT 1033 ON EACH ASPHALT BINDER CONTENT. GYRATE SPECIMENS TO 62 MM HEIGHT AND 7.0 ±0.5% AIR VOIDS EXCEPT FOR 37.5 MM NMAS MIXES, WHICH WOULD BE GYRATED TO 75 MM HEIGHT. ENSURE THE MAXIMUM CORRECTED RUT DEPTH IN THE TABLE BELOW IS MET FOR THE MIX TYPE. SET THE MAXIMUM RUT DEPTH TO AT LEAST 20 MM BEFORE STARTING THE TEST TO ENSURE 20,000 PASSES ARE REACHED. PROVIDE TEST DATA WITH THE MIX DESIGN SUBMITTAL AND INCLUDE THE NUMBER OF PASSES TO REACH STRIPPING INFLECTION POINT. USE HWTT EQUIPMENT SPECIFICALLY DESIGNED TO ONLY RUN THE HWTT. IF THE ASPHALT LEVEL 3 LAB DOES NOT HAVE THE EQUIPMENT, THIS TEST CAN BE RUN AT AN AASHTO ACCREDITED LAB ACCREDITED FOR THE AASHTO T 324. THE TEST REPORT SHOULD INCLUDE THE MANUFACTURER AND MODEL USED FOR THE HWTT. UTILIZE HWTTXPERT SOFTWARE DEVELOPED BY NCAT TO DETERMINE THE CORRECTED RUTTING DEPTH AND SUBMIT A COPY OF THE REPORT THAT INCLUDES STRIPPING NUMBER.

IF THE REQUIREMENTS IN TABLE ARE NOT MET, AIR VOIDS MAY BE REGRESSED 0.5% FROM THE MIX TYPE DESIGN AIR VOID WITH VIRGIN ASPHALT BINDER ONLY FILLING IN THE VOIDS AS DESCRIBED IN SS-823. PERFORM THE IDEAL-CT STOA AND LTOA AND HWTT USING THE NEW TOTAL ASPHALT BINDER CONTENT WITH -0.3% AND +0.3% OBC RAN AND REPORT RESULTS. IF RESULTS DO NOT MEET REQUIREMENTS IN TABLE BELOW AFTER AIR VOID REGRESSION, REDESIGN THE MIX.

VIRGIN PG BINDER GRADE AND SUPPLIER MUST REMAIN THE SAME DURING PRODUCTION. CHANGING SUPPLIER FOR PG 58-28 OR PG 64-22 IS NOT PERMITTED. A CHANGE IN SUPPLIER WILL REQUIRE A NEW MIX DESIGN.

SUPPLY TEN GYRATORY COMPACTED SPECIMENS AT 62.0 MM ±0.5 MM AND A RICE AT STOA PER SUPPLEMENT 1033 AND SIX GYRATORY COMPACTED SPECIMENS AT 62.0 MM ±0.5 MM AND A RICE AT LTOA PER SUPPLEMENT 1033. FOR 302 MIXES, PROVIDE 95.0 MM ±0.5 MM SPECIMENS. OMM WILL VERIFY THE MIX DESIGN USING RAW INGREDIENTS COLLECTED AT THE MIX PLANT FACILITY INCLUDING THE MSG, STOA & LTOA IDEAL-CT, AND HWTT. FOR ALL TESTS ABOVE, PROVIDE TEST DATA FOR EACH SPECIMEN INCLUDING A SUMMARY OF ALL RESULTS INCLUDING RAW ELECTRONIC DATA. ALLOW A MINIMUM OF SIX WEEKS FROM RECEIVING THE RAW INGREDIENTS AT OMM FOR MIX DESIGN REVIEW AND PRELIMINARY APPROVAL DUE TO OMM VERIFYING THE MIX.

Mix Type	Minimum CT_{Index}	Corrected Rut Depth, mm, max. [1]	Stripping Inflection Point, passes, min. [2]
Item 442 9.5 mm [3]	90	7	10,000
Item 442 12.5 mm Surface PG 70-22M	90	7	10,000
Item 442 12.5 mm Surface PG 76-22M	90	4	10,000
Item 442 12.5 mm (Intermediate)	70	7	10,000
Item 442 19.0 mm (Intermediate)	70	7	10,000
Item 441 Type 1 Surface	90	10	8,000
Item 441 Type 1 Intermediate	90	10	8,000
Item 441 Type 2 Intermediate	70	10	8,000
Item 302 [4]	60	7	10,000
Item 302 – 25.0 mm	60	7	10,000

[1] Corrected Rutting Depth (CRD) uses AASHTO T 324 at 50 deg C using 20,000 passes and 7.0 +/- 0.5% gyrated air void specimens. Utilize HWTTXpert software developed by NCAT to calculate CRD.
[2] If overall rutting depth (not corrected rutting depth) is equal to or below 4.0 mm after 20,000 passes, the stripping inflection point is considered passing regardless of value. Still report value.
[3] This is for Ndes of 65 9.5 mm mixes. For Ndes 50 mixes, use criteria in 441 Type 1 Surface for 9.5 mm Surface, 441 Type 1 Intermediate for 9.5 mm Intermediate, and 441 Type 2 for 19.0 mm mixes.
[4] Use 75 mm thick specimens and specimen molds for 37.5 mm NMAS mixes.

APP FOR BALANCED MIX DESIGN APPROACH B: 2027 PROJECTS (CONTINUED)

FOLLOW 403 FOR QUALITY CONTROL AND VERIFICATION ACCEPTANCE EXCEPT AS FOLLOWS:

AN ASPHALT LEVEL 3 APPROVED TECHNICIAN THAT HAS EXPERIENCE MAKING THE SPECIMENS BELOW AND RUNNING THE IDEAL-CT TEST MUST BE ON-SITE DURING THE FIRST TWO PRODUCTION DAYS AND AT LEAST THE FIRST SAMPLE THAT IS HOT COMPACTED.

SAMPLE A MINIMUM OF ONE TIME FOR EACH 3,000 TONS OF PRODUCTION, OR ANY PORTION OF 3,000 TONS OVER 1,000 TONS AS OUTLINED IN THE TABLE BELOW AND PERFORM THE FOLLOWING ON THE SAMPLE IN ADDITION TO QC TESTING AS DESCRIBED IN 403.06:

Total tons		Sample 1		Sample 2		Sample 3	
Min	Max	Min	Max	Min	Max	Min	Max
0	4,000	0	4,000				
4,001	7,000	0	3,000	3,001	7,000		
7,000	10,000	0	3,000	3,001	6,000	6,001	10,000

-TAKE THE SAMPLE DURING A REQUIRED QC SAMPLE, HOWEVER, THIS SAMPLE DOES NOT NEED TO BE RANDOMLY SELECTED FROM THE ALREADY RANDOM QC SAMPLES SINCE IT'S FOR INFORMATION ONLY. THE TABLE ABOVE DEMONSTRATES WHEN EACH OF THE SAMPLES SHOULD BE TAKEN. IF THE MIX TYPE IS OVER 10,000 TONS, THE TABLE WOULD CONTINUE IN 3,000-TON INCREMENTS. THE CONTRACTOR MAY CHOOSE TO TAKE THE SAMPLE AT A CONVENIENT TIME FOR THEM. ENSURE THAT A MINIMUM OF 1,000 TONS SEPARATE EACH SAMPLE AND NOT ON THE SAME PRODUCTION DAY. THIS WILL MOST LIKELY REQUIRE MORE THAN ONE QC TECHNICIAN, AT LEAST AN ADDITIONAL OVEN TO HOLD MIX FOR HOT COMPACTING, MORE THAN TWO GYRATORY MOLDS, AND MORE THAN ONE GYRATORY IF THE MIX REQUIRES A GYRATORY (442 MIX) DURING NORMAL 403.06 TESTING. THE ADDITIONAL GYRATORY DOES NOT NEED TO BE INSIDE THE MIX PLANT FACILITY (E.G., IT CAN BE IN A TRAILER) BUT SHOULD BE PROTECTED FROM THE WEATHER AND VERIFIED. PRIOR TO PRODUCTION, COMMUNICATE THE ADDITIONAL EQUIPMENT TO DISTRICT TESTING AND OMM.

-HOT-COMPACT AT THE MIX PLANT FACILITY, USING A GYRATORY, A MINIMUM OF EIGHT SPECIMENS PER S-1033 MEETING 7.0 ±0.5% AIR VOIDS. NOTE: MORE THAN EIGHT SPECIMENS MAY BE COMPACTED TO ENSURE EIGHT SPECIMENS MEET THE AIR VOID REQUIREMENT. ALL PILLS SHOULD BE COMPACTED WITHIN AN HOUR OF COMPACTING THE FIRST PILL. NOTE THAT THE MSG USED FOR THESE SPECIMENS FOLLOWS THE HOT-COMPACTED PROCEDURE AND NOT WHAT'S DESCRIBED IN 403.06. HALF OF THE SPECIMENS RUN THE IDEAL-CT FOLLOWING S-1033. THE OTHER HALF OF THE SPECIMENS RUN THE HIGH TEMPERATURE INDIRECT TENSION TEST (HT-IDT) FOLLOWING THE PROCEDURE IN ALABAMA DOT ALDOT-458 PROCEDURE. REPORT HT-IDT STRENGTH IN UNITS OF PSI. PERFORM TESTING WITHIN 24 HOURS OF COMPACTION. TESTING OF COMPACTED SPECIMENS MAY BE DONE AT AN ASPHALT LEVEL 3 LAB. PROVIDE MSG AND BSG RESULTS FOR EACH SPECIMEN. RESULTS ARE FOR INFORMATION ONLY.

-REHEATING SAMPLES AND COMPACT USING A GYRATORY, A MINIMUM OF 12 SPECIMENS PER S-1033 MEETING 7.0 ± 0.5% AIR VOIDS AND THE FOLLOWING: SAMPLE THE MIX INTO PROPER CONTAINERS, THEN ALLOW THE MIX TO COOL TO A TEMPERATURE BELOW 104 °F (40 °C). CONTAINERS OF MIX SHOULD ONLY BE REHEATED ONCE. TEST SIX FOR IDEAL-CT AND SIX FOR HT-IDT AND REPORT THE RESULTS. REHEAT SAMPLES NEED TO BE TESTED WITHIN 10 CALENDAR DAYS OF SAMPLING. REHEATING SAMPLES AND TESTING CAN BE DONE AT AN ASPHALT LEVEL 3 LAB. RESULTS ARE FOR INFORMATION ONLY.

-REPORT RESULTS FOR EACH SAMPLE TO DISTRICT TESTING AND TO OMM INCLUDING A COPY OF THE QUALITY CONTROL REPORT.

-THE DEPARTMENT MAY TAKE ADDITIONAL MIX FOR REHEATING AND TESTING AT THE SAME TIME OR INDEPENDENTLY OF THESE SAMPLES.

DESIGN AGENCY
DESIGNER LDB
REVIEWER BJA MM-DD-YY
PROJECT ID 112489
SHEET P. 05 TOTAL 18

LOG-PAVE-FY27
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/18/2026 TIME: 4:54:45 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Benjamin.Ankrom@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112489 PRODUCT: OpenRoadsDesigner 24.00.00.205
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