

### Note: 000096

#### **Overview**

Number	000096
Description	MS-19 Emulsified Asphalt - Quantity Conversion Support
Version	1 from 11.02.2021
Status	Released to Customer
Language	EN
Responsible	Guido Jager & Markus Seng
Product	BCP
Category	Advanced Development

#### **Symptom**

ASTM D4311-15 states in the scope section: "These tables are applicable to all types of asphalts except emulsified asphalts". BCP customers require a solution for emulsified asphalt.

#### Cause

Measurement standard - application limitation.

#### **Solution**

It is highly recommended to use the services of BCS 3.0 QW-Certified professionals to implement and test such configuration and create the appropriate Customer Test Scenarios. A list of all QW-Certified consultants can be found <u>here</u>.

For emulsified asphalt, the <u>Basic Asphalt Manual MS-19</u>, Fourth Edition, provides a volume correction factor table B.1 (similar to that table defined in ASTM D633) for a base temperature of 60 °F for such products.

### QuantityWare

QuantityWare has reviewed MS-19 and classified that document as a regional/country specific standard.

With this note, an implementation of the MS-19 Table B.1 defined in Appendix B is delivered, such that <u>SAP QCI and MQCI</u> conversion groups for emulsified asphalt may be configured for base temperatures of 15 °C, 20 °C and 60 °F. The calculations for 15 °C and 20 °C are achieved via a soft conversion - rescaling of <u>VCF</u> Table factors to 15 °C and 20 °C base temperature by dividing the 60 °F factor with the VCF from 59 °F (15 °C) to 60 °F / from 68 °F (20 °C) to 60 °F.

Rounding (to 0.1 °F / 0.05 °C) and linear interpolation for temperatures not defined in the MS-19 Table B.1 is also implemented. Via configuration, access to Table B.1 either via the °C values or the °F values is enabled.

All VCF are rounded consistently - given the Table B.1 VCF accuracy of 5 decimals - to 5 decimal places.

On a technical level, a new function group /QTYW/MS19\_04 is delivered. This function group contains new ABAP functions. One function can be added to the function module sequence of new SAP QCI conversion groups (function /QTYW/MS19\_ASPHALT\_EMULSION\_V4), one to the function module sequence of new MQCI conversion groups (function /QTYW/MQCI\_CALCULATE\_MS19\_V4).

With the <u>next BCS 3.0 CSP</u>, an extended template will be delivered that contains 4 new SAP QCI conversion groups and 4 new MQCI conversion groups for emulsified asphalt.

With this advanced development note, no additional conversion groups are delivered. If you need to implement this solution before the CSP is available, follow the configuration instructions provided with this note for MQCI conversion groups.

#### **Transport Reference**

SAP Release	Transport	File Name	Notes
ECC600	QOIK900332	NOTE-00096-30x.SAR	
S/4 HANA	QOIK900332	NOTE-00096-30x.SAR	

#### **Configuration Instructions for 4 new MQCI template conversion groups:**

After you have successfully applied the relevant transport noted above, go to your dedicated BCP template client 045 in your development system and launch the <u>PMC</u>.

1. Copy BCP template conversion groups Q540, Q541, Q543 and Q544 to Q54A, Q54B, Q54C and Q54D and adjust the description as indicated below:



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- SAP QCI - MQCI Document	Q530	ROAD TAR D633 DENSITY 15 °C	
	Q531	ROAD TAR D633 DENSITY 20 °C	
	Q532	ROAD TAR D633 API GRAVITY 60 °F	
	Q533	ROAD TAR D633 RELAT. DENSIY 60 °F	
	Q534	ROAD TAR D633 DENSITY 60 °F	
	Q540	ROAD TAR D633 DENSITY 15 °C, MQCI	
	Q541	ROAD TAR D633 DENSITY 20 °C, MQCI	
	Q542	ROAD TAR D633 API GRAVITY 60 °F, MQCI	
	Q543	ROAD TAR D633 RELAT. DENSITY 60 °F MQCI	
	Q54A	ASPHALT EMULS. MS-19 ABS.DEN. 15 °C MQCI	
	Q54B	ASPHALT EMULS. MS-19 ABS.DEN. 20 °C MQCI	
	Q54C	ASPHALT EMULS. MS-19 API GRV. 60 °F MQCI	
	Q54D	ASPHALT EMULS, MS-19 REL.DEN, 60 °F MQCI	
	Q54E	ASPHALT EMULS. MS-19 ABS.DENS. 15 °C	
	Q54F	ASPHALT EMULS. MS-19 ABS.DENS. 20 °C	
	Q54G	ASPHALT EMULS. MS-19 API GRAV. 60 °F	
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	Q550	COAL-TAR PITCHES ASTM D2926-97 RD 60 °F	~
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Copy the associated reading groups and range groups as well using the identical source and target IDs as for the conversion groups and link the new reading groups to the new conversion groups.

2. Exchange ABAP function /QTYW/MQCI\_CALCULATE\_D633\_05 in your new conversion groups with the new emulsified asphalt ABAP function /QTYW/MQCI\_CALCULATE\_MS19\_V4:

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	Q54A	25	/QTYW/MQCI_08_DEN15_KG_M3_AIR	
	054A	10	/QTYW/MQCI_CALCULATE_MS19_V4	
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3a. For conversion groups Q54A and Q54B, exchange ABAP function

/QTYW/CALC BDICH AIR VAC TAB56 with existing ABAP function

/QTYW/MQCI\_08\_DEN15\_KG\_M3\_AIR - to migrate to the latest API MPMS mass-weight standard as well. Remove rounding function /QTYW/MQCI\_ROUND\_DENSITIES\_1\_1 from conversion group Q54A and Q54B - as shown in the screen print above.

3b. For conversion group Q54C, exchange ABAP function /QTYW/CALC\_BDICH\_AIR\_VAC\_TAB8 with existing ABAP function /QTYW/MQCI\_08\_API60\_TO\_LB\_GAL - to migrate to the latest API MPMS mass-weight standard as well.



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	054C	40	/QTYW/MQCI_ROUND_ALT_QUANTITY		
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3c. For conversion group Q54D, exchange ABAP function /QTYW/CALC\_BDICH\_AIR\_VAC\_TAB26 with existing ABAP function /QTYW/MQCI\_08\_RD60\_TO\_LB\_GAL - to migrate to the latest API MPMS mass-weight standard as well.

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	Q54D	20	/QTYW/MQCI_CALCULATE_MS19_V4	
	Q54D	25	QTYW/MQCI_08_RD60_TO_LB_GAL	
	Q54D	30	/QTYW/MQCI_CALCULATE_MS19_V4	
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	Q54D	40	/QTYW/MQCI_ROUND_ALT_QUANTITY	
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4a. Add one new entry via the "Assign Additional Units to Conversion Group" link as shown below for conversion groups Q54A and Q54B:

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NOTE: The QCI unit of measure (UoM) must be entered manually as TEMPERATURE\_C in capital letters.

4b. Add one new entry via the "Assign Additional Units to Conversion Group" link as shown below for conversion groups Q54C and Q54D, keep the existing 5 entries.

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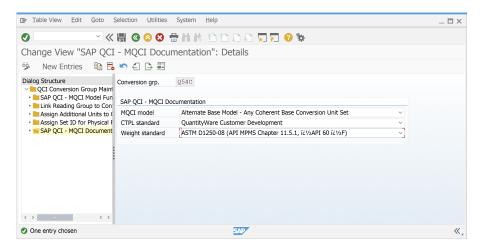
NOTE: The QCI unit of measure (UoM) must be entered manually as TEMPERATURE\_F in capital letters.

5a. Adjust the SAP QCI - MQCI Documentation as indicated below for conversion groups Q54A and Q54B:

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5b. Adjust the SAP QCI - MQCI Documentation as indicated below for conversion group Q54C:



5c. Adjust the SAP QCI - MQCI Documentation as indicated below for conversion group Q54D:

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6. Perform test calculations with the four new conversion groups - example:

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7. Now you may proceed as described in the <u>PAIG</u> documentation and copy one of the four new BCP template conversion groups to your Z<sup>\*\*\*</sup> conversion group, for which you make final adjustments based on your customer requirements.

8. Once all above steps have been completed, follow the guidelines in the BCP reference manual and create Customer Test Scenarios in line with your organisations' business, GRC and security requirements.

### Validity

SAP Release	From SP	To SP	In SP Shipment
ECC600	BCS 3.0 CSP01	BCS 3.0 CSP01	BCS 3.0 CSP02
S/4 HANA	BCS 3.0 CSP00	BCS 3.0 CSP00	BCS 3.0 CSP01