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 here.

For emulsified asphalt, the Basic Asphalt Manual MS-19, 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 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 SAP QCI and MQCI 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 - re-scaling of VCF 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 next BCS 3.0 CSP, 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 PMC.

1. Copy BCP template conversion groups Q540, Q541, Q543 and Q544 to Q54A, Q54B, Q54C and Q54D and adjust the description as indicated below:
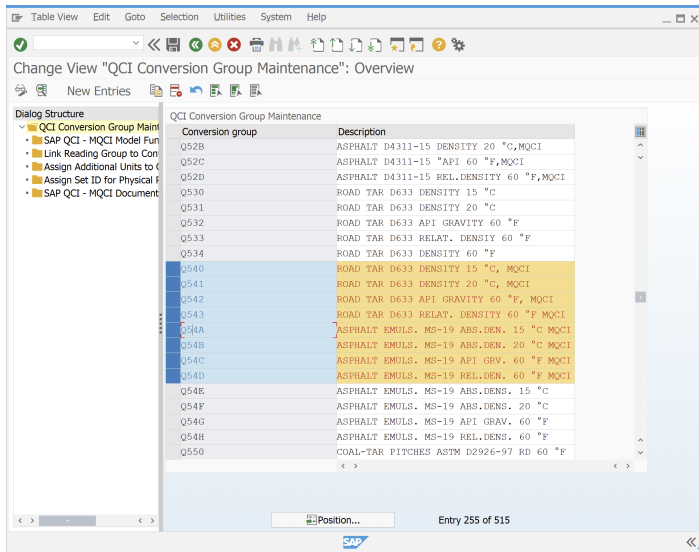
Copy the associated reading groups and range groups as well using the identical source and target IDs as for the conversion groups and link the new reading groups to the new conversion groups.

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*:
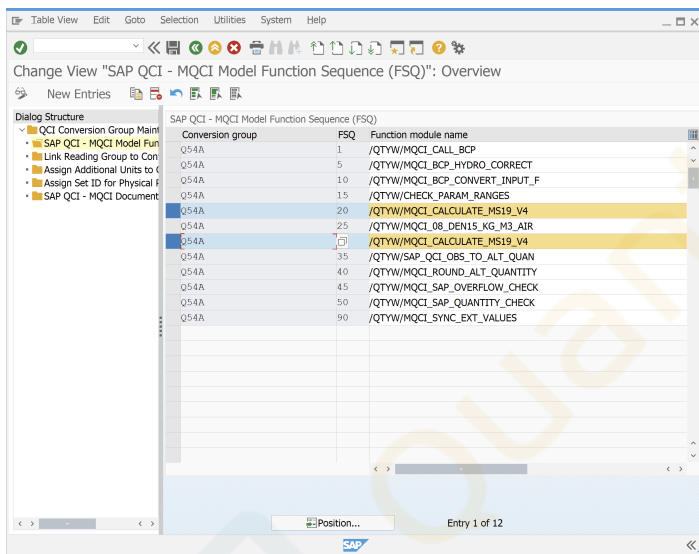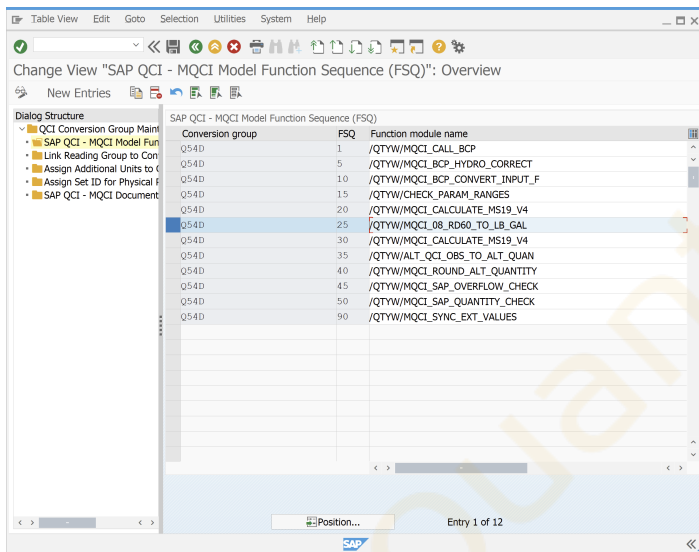

3a. For conversion groups Q54A and Q54B, exchange ABAP function */QTYW/CALC_BDICH_AIR_VAC_TAB56* with existing ABAP function */QTYW/MQCI_08_DEN15_KG_M3_AIR* - to migrate to the latest API MPMS mass-weight standard as well. Remove rounding function */QTYW/MQCI_ROUND_DENSITIES_1_1* from conversion group 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.
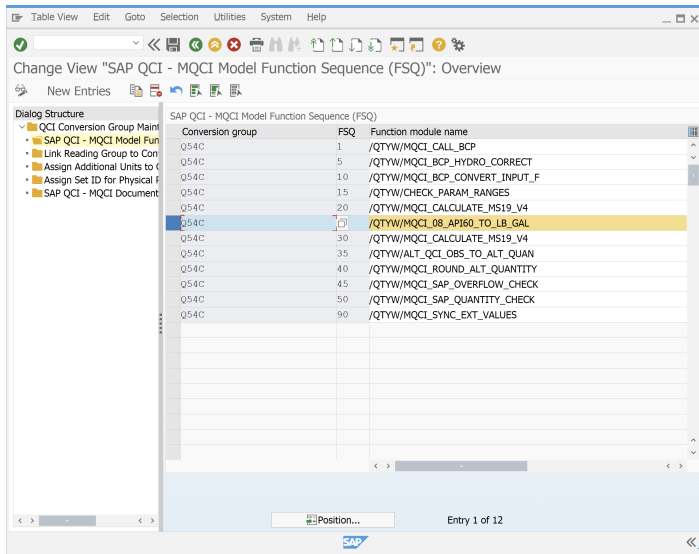
3c. For conversion group Q54D, exchange ABAP function */QTYW/CALC_BDICH_AIR_VAC_TAB26* with existing ABAP function */QTYW/MQCI_08_RD60_TO_LB_GAL* - to migrate to the latest API MPMS mass-weight standard as well.
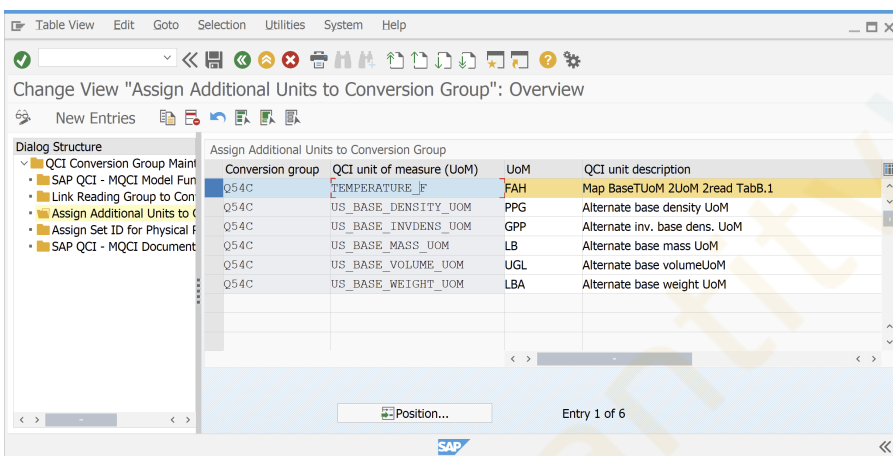

4a. Add one new entry via the "Assign Additional Units to Conversion Group" link as shown below for conversion groups Q54A and Q54B:
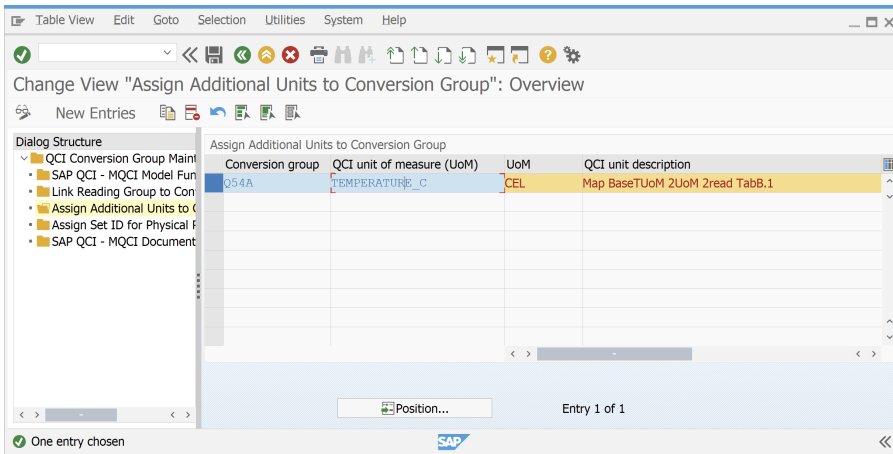
NOTE: The QCI unit of measure (UoM) must be entered manually as TEMPERATURE_C in capital letters.

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.
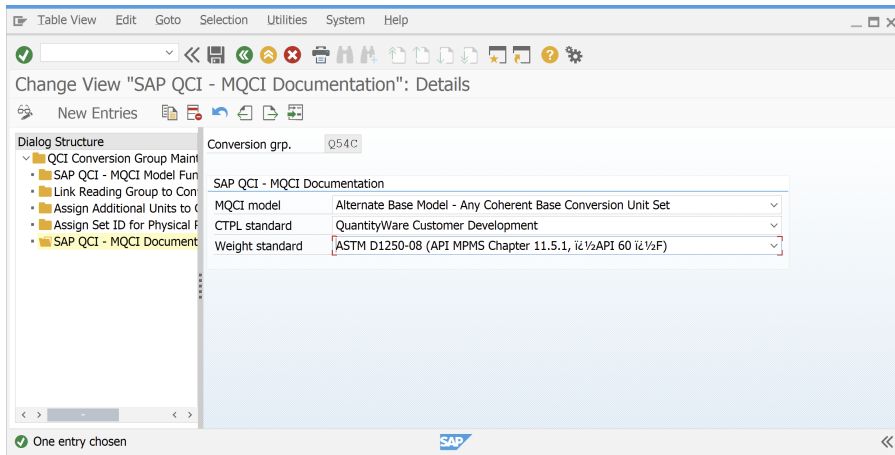

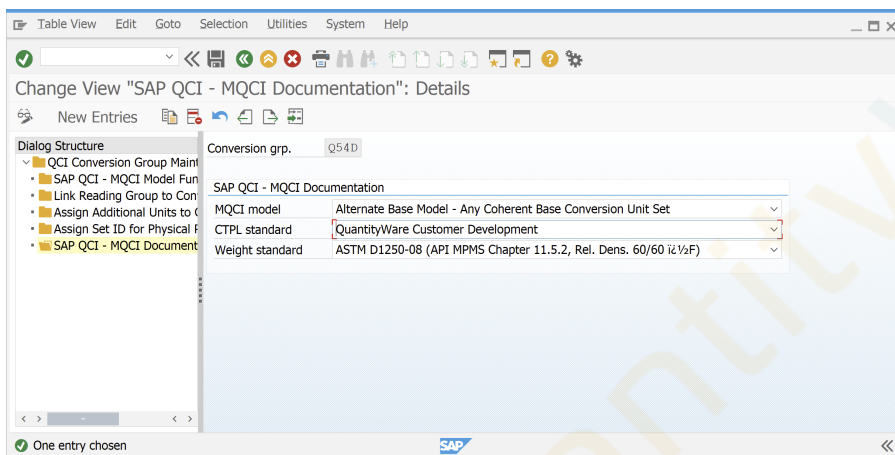NOTE: The QCI unit of measure (UoM) must be entered manually as TEMPERATURE_F in capital letters.

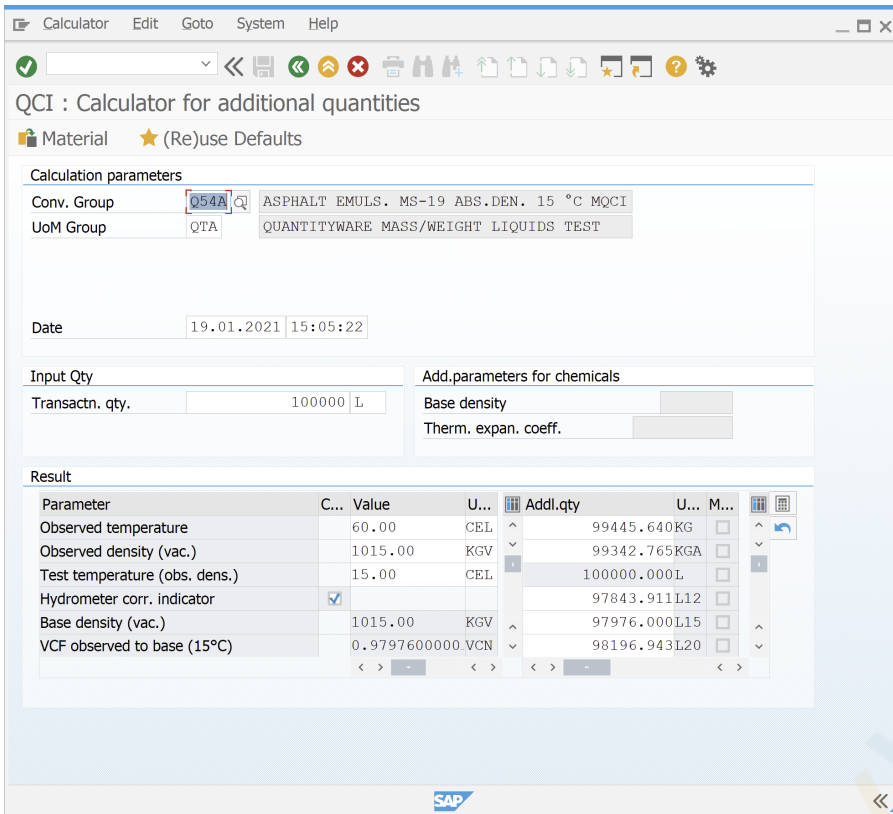5a. Adjust the SAP QCI - MQCI Documentation as indicated below for conversion groups Q54A and Q54B:
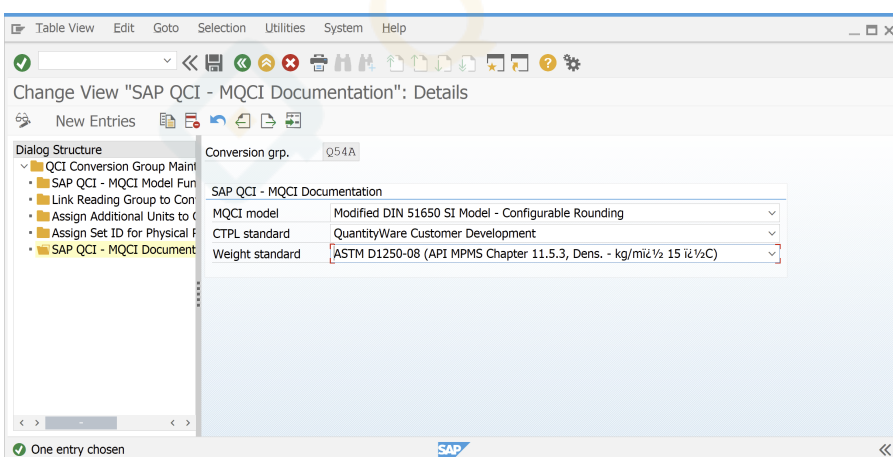
5b. Adjust the SAP QCI - MQCI Documentation as indicated below for conversion group Q54C:

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

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

7. Now you may proceed as described in the PAIG documentation and copy one of the four new BCP template conversion groups to your Z*** 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