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| 1 Title of project High precision roundness measurement by error separation techniques |
| 2 **Report** [ ]  progress report [x]  final report |  3 **Status of the project** [ ]  [in progress](#Text1) [ ]  [ongoing](#Text2) [x]  [completed](#Text12) [ ]  [concluded](#Text21) | 4 **Registration No**: 1489 |
| 5 **Subject Field** L - Length L - Length |
| 6 **Type of collaboration** Comparison of Measurement Standards |
| 6A **In the case of a comparison** Registered as Key comparison (KC) or Supplementary Comparison (SC) in the KCDB:  [ ] no [x] yes If yes: No. of KC/SC:EURAMET.L-S30 |
| 7 **Progress/Final Report** Comparison piloted by CEM (ES), continuation of previous comparison EURAMET.L-S23. Artefacts selected were 2 alumina spheres of 20 mm and 25 mm. Five National Metrology Institutes from EURAMET participated in this comparison which lasted nine months, from March 2020 to November 2020.The measurand was the roundness on the equator of the spheres. Peak-to-valley roundness deviation (RONt) had to be evaluated with reference to the least squares reference circle (LSCI) and, if possible, to the minimum zone reference circles (MZCI), in accordance with the ISO/TS 12181-1:2011. Each laboratory had to use an error separation technique to remove the contribution of the spindle error. In case of using a multistep technique it was advisable to inform on the number of steps used.All participants have successfully demonstrated the validity of the claimed measurement capability. Three of them submitted their approved CMCs and two others smaller values which were shown to be valid when compared to the reference value. One participant did not use error separation technique showing, as expected, a higher uncertainty with respect to the rest of participants but according to its declared CMC. |
| 8 **Coordinator** Institute/Country: CEM Name: Emilio Prieto Phone: +34 91 8074 716 E-mail: eprieto@cem.es |
| 9 **Participating Partners – changes**  Change of projects partners: (Please indicate here any changes of project partners compared to the previous report) New project partners:       Removed project partners:       |
| 10 **Additional documents for upload to the TC projects datase** |
| 11 **In the case of a KC/SC, status of the comparison** [ ]  Draft A in progress  [ ]  Draft B in progress  [x]  Final report published in KCDB  [ ]  Other, please specify       |
| 12 **Expected completion date**       | 13 **Date** 2022-02-07 |

*Notes for completion of the form overleaf*

**NOTES FOR THE COMPLETION OF THE FORM (numbers refer to boxes overleaf)**

Progress of TC projects should be reported annually.

The filled form is sent to the EURAMET Secretariat (secretariat@euramet.org) by the TC Chair.

**3 Status of project:**

“in progress” when a project was agreed by the respective TC and has started,

“ongoing” project with continuous or periodic activities, without a fixed end,

“completed” when the work programme has been carried out and results have been achieved,

“concluded” when it was terminated without being completed.

**4 Registration No:** please see TC project database on the EURAMET website

**5 Subject Field:** The field specified in the EURAMET Project Form

**6 Type of collaboration:** The field specified in the EURAMET Project Form

**7 Progress:**

A brief description of the progress and a summary of the achieved results should be provided. Comments on the advantages of undertaking the work collaboratively through EURAMET would be useful.

Completion of this Report is not deemed as publication of the work. Collaborators are encouraged to publish their work through normal channels, mentioning it was undertaken as EURAMET collaboration.

**8 Coordinator:** The Coordinator is the person who is appointed as the contact point for the project detailed overleaf.

**9** **Change of projects partners:** Please indicate here any changes of project partners since the project has started or since the last reporting.

**10 Additional documents for upload to the TC project database:** Please list documents and send together with project report.

**12 Expected completion date:**

Please provide an updated estimate of the completion date.

If the project has now been completed then the actual date of completion should be given.

**13 Date** of transmission to EURAMET Secretariat.