

Institut für Eignungsprüfung GmbH • Daimlerstraße 8 • D-45770 Marl

# Information sheet Proficiency tests metal 2014

| Organiser:   |                           | Institut für Eignungsprüfung IfEP GmbH, Marl, Germany                              |  |  |  |  |
|--|---------------------------|--|--|--|--|--|
| Registration:  |                           | By means of the attached form  |  |  |  |  |
| Intention:   |                           | Confirmation of technical competence of participating laboratories                 |  |  |  |  |
| Data evaluatio   | on:                       | Based on ISO/IEC 17043 and ISO 13528. Normally the participation is                |  |  |  |  |
|  |                           | approved for accreditations according to NADCAP.                                   |  |  |  |  |
| Confidentiality  | /:                        | Each laboratory receives a specific code number                                    |  |  |  |  |
| Documentatio   | n:                        | Confirmation of participation  |  |  |  |  |
|  |                           | Certificate in case of successful participation                                    |  |  |  |  |
|  |                           | Final report with a list of participants in alphabetical order with declaration of |  |  |  |  |
|  |                           | consent; determination of measurement uncertainty according to the current         |  |  |  |  |
|  |                           | standards and guidelines. Details for subcontracting of single parts: please se    |  |  |  |  |
|  |                           | www.irep.de, section "proficiency tests"   |  |  |  |  |
|  | Test Standard             | ISO 6508 part 1 HRC  |  |  |  |  |
| U  | Material:                 | Certified reference hardness test block (MPA NRW Dortmund Germany)                 |  |  |  |  |
|  | Material.                 | Test material with similar hardness (to be prepared by participants)               |  |  |  |  |
| Ś  | Test program:             | 3 x five hardness measurements on certified reference hardness test blocks         |  |  |  |  |
| och  |                           | five hardness measurements on test specimens                                       |  |  |  |  |
| <u>ح</u> ي   | Test sequence:            | Each hardness test block will be tested by several participants.                   |  |  |  |  |
| 140<br>ng  | ·                         | There will be an arrangement of the dates in advance.                              |  |  |  |  |
| o. 1<br>isti   | Results to be submitted:  | 3 x five hardness values of the hardness test blocks                               |  |  |  |  |
| Te   |                           | five hardness values of test material  |  |  |  |  |
| SS   | Assigned Value:           | Certified reference values of MPA NRW Dortmund, Germany                            |  |  |  |  |
| ne   | Additional information    | Confirmation of measurement uncertainty of each laboratory based on                |  |  |  |  |
| ard  | provided by organiser:    | ISO 6508-1   |  |  |  |  |
| Ϋ́   | Participation fee:        | Germany 330 €; other countries + transport costs*                                  |  |  |  |  |
|  |                           | estimated start calendar week 05/2014  |  |  |  |  |
|  | To al Olar dand           |  |  |  |  |  |
|  | Test Standard:            | ISU 898-1, EN ISU 3506-1   |  |  |  |  |
| s of of  | Material:                 | Screws   |  |  |  |  |
| 140<br>ng<br>ne  | Production of specifiens. | Assording to standard, a g tangila tost  |  |  |  |  |
| o.<br>sti  | Assigned Value:           | Consensus value calculated from the results of all the participants                |  |  |  |  |
| fa Te  | Participation fee:        | Germany 320 € other countries + transport costs*                                   |  |  |  |  |
|  |                           | estimated start calendar week 30/2014  |  |  |  |  |
|  |                           |  |  |  |  |  |
|  | Test Standard:            | In-house procedure   |  |  |  |  |
| 2  | Material:                 | Material similar to daily laboratory work (no "synthetic alloy")                   |  |  |  |  |
| let  |                           | a) low alloyed steel   |  |  |  |  |
| uo   |                           | b) high alloyed steel  |  |  |  |  |
| _ ctr  | Results to be submitted:  | Characteristic values according to specifications                                  |  |  |  |  |
| 14<br>pe   | Assigned Value:           | Consensus value calculated from the results of all participants                    |  |  |  |  |
| st<br>st   | Additional information:   | Statements with regard to measurement uncertainty                                  |  |  |  |  |
|  | Participation fee:        | One alloy:   |  |  |  |  |
| issi   |                           | Germany 310 €, other countries + transport costs                                   |  |  |  |  |
| μ  |                           | Germany 550 $\in$ : other countries $\pm$ transport costs*                         |  |  |  |  |
| _  |                           | estimated start calendar week 10/2014  |  |  |  |  |
|  |                           |  |  |  |  |  |
|  | Test Standard:            | In-house procedure   |  |  |  |  |
| <u>ہ ح</u>   | Material:                 | Material similar to daily laboratory work (no "synthetic alloy")                   |  |  |  |  |
| ) to the firm of t |                           | Al-alloy   |  |  |  |  |
| 14(<br>ssic<br>pm<br>als   | Results to be submitted:  | Characteristic values according to specifications                                  |  |  |  |  |
| No. 1<br>Emis<br>pectro<br>non fe<br>metu  | Assigned Value:           | Consensus value calculated from the results of all the participants                |  |  |  |  |
|  | Additional information:   | Statements with regard to measurement uncertainty                                  |  |  |  |  |
| <u>r</u> s   | Participation fee:        | Germany 275 €; other countries + transport costs*                                  |  |  |  |  |
|  |                           | estimated start calendar week 10/2014  |  |  |  |  |

\* Prices excl. valid VAT, transport costs, see www.ifep.eu





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|   | Test Standard:  | ASTM A262, practice B, Streicher test   |  |  |  |  |
|---|---|---|--|--|--|--|
| 1405<br>ttance<br>iinst<br>ranular<br>ack                         | Material:   | Stainless steel   |  |  |  |  |
|   | Production of specimens:  | By the participants   |  |  |  |  |
|   | Results to be submitted:  | Mass loss   |  |  |  |  |
| o.<br>Nga<br>att  | Assigned value:   | Consensus value calculated from the results of all participants   |  |  |  |  |
| L a generation  | Participation fee:  | Germany 310 €: other countries + transport costs*   |  |  |  |  |
| .=  |   | estimated start calendar week 12/2014   |  |  |  |  |
|   |   |   |  |  |  |  |
|   | Test Standard   | EN ISO 9227   |  |  |  |  |
| No. 1406<br>Indirect<br>rification of<br>It spray test<br>chamber | Meterial:   |   |  |  |  |  |
|   | Material.   |   |  |  |  |  |
|   | Production of specimens:  | By the organiser  |  |  |  |  |
|   | Results to be submitted:  | Mass loss   |  |  |  |  |
|   | Assigned Value:   | Reference value   |  |  |  |  |
| vel   | Participation fee:  | Germany 275 €; other countries + transport costs*   |  |  |  |  |
|   | r antoipation loo.  | estimated start calendar week 12/2014   |  |  |  |  |
|   | I   |   |  |  |  |  |
|   | Test Standard   | EN ISO 6892-1   |  |  |  |  |
| Ξ   | Material:   | 6 round bar specimens aluminium   |  |  |  |  |
| nin   | matorial  | Specimen diameter $d_0 = 10 \text{ mm}$ or $d_0 = 6 \text{ mm}$   |  |  |  |  |
|   |   | Specimen head ISO thread M16 or M10   |  |  |  |  |
| alui  | Production of specimens:  | By the organiser  |  |  |  |  |
| t 4<br>t a  | Results to be submitted:  | Characteristic values according to the test standard, additionally "Young's   |  |  |  |  |
| es o  |   | Module" and the measurement uncertainty   |  |  |  |  |
| le t  | Assigned Value:   | Consensus values calculated from the results of the participants  |  |  |  |  |
| ISI   | Additional information:   | Statement to the measurement uncertainty of the test method   |  |  |  |  |
| Ler   | Participation fee:  | Germany 330 €; other countries + transport costs*   |  |  |  |  |
| •   |   | estimated start calendar week 15/2014   |  |  |  |  |
|   |   |   |  |  |  |  |
| 5   | Test Standard:  | UT, PT  |  |  |  |  |
| ţin   | Material:   | Steel specimens with flaws defined for the test method  |  |  |  |  |
| est   | Results to be submitted:  | Type / Position / Size of flaws   |  |  |  |  |
| 6 8<br>T  | Assigned Value:   | Sample solution of Fraunhofer IZFP Saarbrücken, Germany   |  |  |  |  |
| tiv   | Test sequence:  | Each sample will be tested by several participants.   |  |  |  |  |
| . J   |   | There will be an arrangement of the dates in advance.   |  |  |  |  |
| sti   | Participation fee:  | One method:   |  |  |  |  |
| မို   |   | Germany 350 €; other countries + transport costs"   |  |  |  |  |
| ů   |   | Germany $620 \notin$ other countries + transport costs*   |  |  |  |  |
| z   |   | estimated start calendar week 30/2014   |  |  |  |  |
|   |   |   |  |  |  |  |
|   | Test Standard:  | EN ISO 6892-1   |  |  |  |  |
|   | Material:   | 6 round specimens, steel,   |  |  |  |  |
| e   |   | Specimen diameter $d_0 = 10 \text{ mm}$   |  |  |  |  |
| s   |   | Specimen head ISO thread M16, special shapes possible against payment   |  |  |  |  |
| 109<br>st s<br>oar  | Production of specimens:  | By the organiser  |  |  |  |  |
| d t<br>d t  | Results to be submitted:  | Characteristic values according to the test standard, additionally "Young's   |  |  |  |  |
| No.   |   | Module" and the measurement uncertainty   |  |  |  |  |
| ns<br>ro  | Assigned Value:   | Consensus value calculated from the results of all the participants   |  |  |  |  |
| μ   | Additional information:   | Confirmation of the individual measurement uncertainty of each laboratory   |  |  |  |  |
|   | Participation fee:  | Germany 450 €; other countries + transport costs*   |  |  |  |  |
|   |   | estimated start calendar week 40/2014   |  |  |  |  |
|   |   |   |  |  |  |  |
| s   | Test Standard:  | EN ISO 6892-1   |  |  |  |  |
| sue   |   |   |  |  |  |  |
| ~ ~ o   | Material:   | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,  |  |  |  |  |
| teel  | Material:   | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width  |  |  |  |  |
| 10<br>it steel<br>jecime  | Material:<br>Production of specimens:   | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width<br>By the organiser  |  |  |  |  |
| 1410<br>test steel<br>specime                                     | Material:<br>Production of specimens:<br>Results to be submitted:   | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width<br>By the organiser<br>Characteristic values according to the test standard, additionally "Young's<br>Medulo" and the measurement uncertainty  |  |  |  |  |
| lo. 1410<br>le test steel<br>ile specime                          | Material:<br>Production of specimens:<br>Results to be submitted:   | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width<br>By the organiser<br>Characteristic values according to the test standard, additionally "Young's<br>Module" and the measurement uncertainty  |  |  |  |  |
| No. 1410<br>nsile test steel<br>insile specime                    | Material:<br>Production of specimens:<br>Results to be submitted:<br>Assigned Value:  | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width<br>By the organiser<br>Characteristic values according to the test standard, additionally "Young's<br>Module" and the measurement uncertainty<br>Consensus value calculated from the results of all the participants   |  |  |  |  |
| No. 1410<br>Tensile test steel<br>t tensile specime               | Material:<br>Production of specimens:<br>Results to be submitted:<br>Assigned Value:<br>Additional information:<br>Participation (    | 6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1,<br>annex B, table B2, 20 mm width<br>By the organiser<br>Characteristic values according to the test standard, additionally "Young's<br>Module" and the measurement uncertainty<br>Consensus value calculated from the results of all the participants<br>Confirmation of the individual measurement uncertainty of each laboratory  |  |  |  |  |
| No. 1410<br>Tensile test steel<br>flat tensile specime            | Material:<br>Production of specimens:<br>Results to be submitted:<br>Assigned Value:<br>Additional information:<br>Participation fee: | <ul> <li>6 flat specimens, thickness approx. 1 mm, geometry according to EN 6892-1, annex B, table B2, 20 mm width</li> <li>By the organiser</li> <li>Characteristic values according to the test standard, additionally "Young's Module" and the measurement uncertainty</li> <li>Consensus value calculated from the results of all the participants</li> <li>Confirmation of the individual measurement uncertainty of each laboratory</li> <li>Germany 330 €, other countries + transport costs*</li> </ul> |  |  |  |  |

\* Prices excl. valid VAT, transport costs, see www.ifep.eu





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|   | Test Standard:   | ISO 148-1 / ISO 148-2   |  |  |  |  |  |
|---|--|---|--|--|--|--|--|
| 111<br>Ict testing                      | Material:  | Charpy test specimens, impact energy low level (RT), average level (RT),  |  |  |  |  |  |
|   |  | high level (RT)   |  |  |  |  |  |
|   | Production of specimens:   | By the organiser  |  |  |  |  |  |
|   | Results to be submitted:   | 5 values according to ISO 148 each energy level   |  |  |  |  |  |
|   | Assigned Value:  | Reference value, limits according to ISO 148-2  |  |  |  |  |  |
| -1 -                                    | Additional Information:  | Measurement uncertainty according to ISO 148-2  |  |  |  |  |  |
| N ri                                    | Fanicipation lee.  | Germany 310 €, other countries + transport costs*   |  |  |  |  |  |
| rp)                                     |  | Two energy levels:  |  |  |  |  |  |
| ha                                      |  | Germany 490 €; other countries + transport costs*   |  |  |  |  |  |
| с<br>С                                  |  | Three energy levels:  |  |  |  |  |  |
|   |  | Germany 630 €; other countries + transport costs*   |  |  |  |  |  |
|   | estimated start calendar week 25/2014  |   |  |  |  |  |  |
|   | Test Standard  | ISO 1206  |  |  |  |  |  |
|   | Material:  | Upon agreement with the participants  |  |  |  |  |  |
|   | Broduction of aposimona:   | Du the extension  |  |  |  |  |  |
| 5                                       | Production of specimens.   | Characteristic values according to the test standard in accordance with the   |  |  |  |  |  |
| 412<br>ds L                             | Results to be submitted:   | participants e. g. as per ISO 1206  |  |  |  |  |  |
| . 1.<br>Ioa                             | Assigned Value:  | Consensus value calculated from the results of all the participants   |  |  |  |  |  |
| cle                                     | Additional information:  | Hints for the calculation of the measurement uncertainty  |  |  |  |  |  |
| ර                                       | Participation fee:   | Germany 750 € other countries + transport costs*  |  |  |  |  |  |
|   | r anticipation loo.  | estimated start calendar week 48/2014, in case of sufficient number of  |  |  |  |  |  |
|   |  | participants  |  |  |  |  |  |
|   |  |   |  |  |  |  |  |
| 3<br>aphy<br>s                          | Test Standard:   | e.g. EN ISO 643, ASTM E 112   |  |  |  |  |  |
|   | Matorial   | Appointment also possible via digital image processing  |  |  |  |  |  |
| 14 <sup>-</sup><br>gra<br>gge           | Results to be submitted:   | e a grain size determination of phases  |  |  |  |  |  |
| nallo<br>nal                            | Assigned Value:  | Consensus value, sample solution  |  |  |  |  |  |
| a let:<br>a                             | Participation fee:   | Germany 245 €; other countries + transport costs*   |  |  |  |  |  |
| Z                                       |  | estimated start calendar week 30/2014   |  |  |  |  |  |
|   | Test Standard  | e g. EN ISO 643 ASTM E 112  |  |  |  |  |  |
| hy n                                    | Material:  | Metallic samples for grinding preparation and analysis  |  |  |  |  |  |
| 14<br>rap<br>le<br>ltio                 |  |   |  |  |  |  |  |
| . 14<br>ogi<br>mp<br>ara                | Results to be submitted:   | e.g. grain size, determination of phases  |  |  |  |  |  |
| ep Sall                                 | Assigned Value:  | Consensus value, sample solution  |  |  |  |  |  |
| het<br>pr                               | Participation fee:   | Germany 275 €; other countries + transport costs*   |  |  |  |  |  |
| -                                       |  | estimated start calendar week 30/2014   |  |  |  |  |  |
|   | Test Standard  | In house procedure  |  |  |  |  |  |
| ~                                       | Material:  | Reference body traced back to PTB. Germany  |  |  |  |  |  |
| og<br>al                                | Production of specimen:  | By the organiser  |  |  |  |  |  |
| tic I                                   |  | Dy the vigaliser  |  |  |  |  |  |
| per |  |   |  |  |  |  |  |
| e 14<br>nd                              | rest sequence.   | There will be an arrangement of the dates in advance  |  |  |  |  |  |
| 1 - 14<br>nd                            | Pesults to be submitted:   | There will be an arrangement of the dates in advance.   |  |  |  |  |  |
| No. 1 <sup>4</sup><br>nate r<br>e and   | Results to be submitted:   | There will be an arrangement of the dates in advance.<br>Measurement of geometrical characteristics   |  |  |  |  |  |
| No. 14<br>rdinate r<br>ctile and        | Results to be submitted:<br>Assigned Value:  | There will be an arrangement of the dates in advance. Measurement of geometrical characteristics PTB reference value Measurement uncertainty (avaluated)  |  |  |  |  |  |
| No. 14<br>oordinate r<br>tactile and    | Results to be submitted:<br>Assigned Value:<br>Additional information:                       | There will be an arrangement of the dates in advance. Measurement of geometrical characteristics PTB reference value Measurement uncertainty (evaluated)  |  |  |  |  |  |
| No. 14<br>Coordinate 1<br>tactile and   | Results to be submitted:<br>Assigned Value:<br>Additional information:<br>Participation fee: | There will be an arrangement of the dates in advance.<br>Measurement of geometrical characteristics<br>PTB reference value<br>Measurement uncertainty (evaluated)<br>Germany 650 €; other countries + transport costs*<br>estimated start calendar week 25/2014 |  |  |  |  |  |

\* Prices. excl. valid VAT, transport costs, see www.ifep.eu





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|                                      | Test Standard:   | ISO 14104   |  |  |  |
|--------------------------------------|--|---|--|--|--|
| No. 1416<br>urface temper inspection | Material:  | Roller bearings with defined surface temper flaws (imq Ingenieurbetrieb GmbH) |  |  |  |
|                                      | Test program:  | Preparation and execution of the Nital –etching according to ISO 14104        |  |  |  |
|                                      | Test sequence: Every participant receives one master specimen  |   |  |  |  |
|                                      | Results to be submitted: Assessment of the equivalent flaw regarding the kind of surface temper a degree of damage, determination of new hardening- and annealing zone hardness – depth gradient |   |  |  |  |
|                                      | Assigned Value:  | Consensus value calculated from the results of all the participants           |  |  |  |
|                                      | Additional information   | Estimation of measurement uncertainty by the participants (for quantitative   |  |  |  |
|                                      | provided by organiser:   | results, only)  |  |  |  |
| Ñ                                    | Participation fee:   | Germany 330 €; other countries + transport costs*                             |  |  |  |
|                                      |  | estimated start calendar week 35/2014   |  |  |  |

\* Prices. excl. valid VAT, transport costs, see www.ifep.eu





### Registration Proficiency Tests Metal 2014

### via Fax to: +49 (0) 2365 / 209 00 35 or via E-Mail to: Sorge@ifep.eu

We will participate in the following proficiency test(s):

| No.   | please<br>mark | Proficiency test                                 | Expected<br>Start<br>(calendar week<br>2014) | Return<br>of the<br>results | Participation fee                                       |                |
|-------|----------------|--|--|-----------------------------|---|----------------|
| 1401  |                | Hardness Testing Rockwell C                      | 05   | 1 week                      | 330€*   |                |
| 1402  |                | Testing of fasteners                             | 30   | 4 weeks                     | 320 € *   | sts            |
| 1403a |                | Emission spectrometry: low alloyed steel         | 10   | 4 weeks                     | 1 alloy:<br>total 310 € *                               | tes            |
| 1403b |                | Emission spectrometry: high alloyed steel        | 10   | 4 weeks                     | 2 alloys:<br>total 550 € *                              | ssib           |
| 1404  |                | Emission spectrometry: Aluminium alloy           | 10   | 4 weeks                     | 275 € *   | cier<br>po:    |
| 1405  |                | Resistance against intergranular attack          | 12   | 4 weeks                     | 310 € *   | ofic           |
| 1406  |                | Indirect verification of salt spray test chamber | 12   | 4 weeks                     | 275€*   | pr<br>s s      |
| 1407  |                | Tensile test aluminium                           | 15   | 4 weeks                     | 330 € *   | te             |
| 1408a |                | UT, ultrasonic testing                           | 30   | 1 week                      | 1 method:<br>total 350 € *                              | for t<br>dat   |
| 1408b |                | PT, penetrant testing                            | 30   | 1 week                      | 2 methods:<br>total 620 € *                             | on             |
| 1409  |                | Tensile test steel: round bars                   | 40   | 4 weeks                     | 450 € *   | atic<br>I st   |
| 1410  |                | Tensile test steel: flat tensile specimens       | 22   | 4 weeks                     | 330 € *   | str<br>cia     |
| 1411a |                | Charpy impact test low level                     |  |                             | 1 level:<br>total 310 € *<br>2 levels:<br>total 490 € * | egi            |
| 1411b |                | Charpy impact test average level                 | 25   | 4 weeks                     |   | al r           |
| 1411c |                | Charpy impact test high level                    |  |                             | 3 levels:<br>total 630 € *                              | ater:<br>er th |
| 1412  |                | Cycle loads LCF                                  | 48   | 4 weeks                     | 750€*   | oila<br>afte   |
| 1413  |                | Metallography: image analysis                    | 30   | 4 weeks                     | 245€*   | A              |
| 1414  |                | Metallography: sample preparation                | 30   | 4 weeks                     | 275 € *   |                |
| 1415  |                | Coordinate metrology: tactile and optical        | 25   | 1 week                      | 650 € *   |                |
| 1416  |                | Surface temper inspection                        | 35   | 4 weeks                     | 330 € *   | ]              |

\* Prices for Germany excl. VAT, other countries: Delivery and duty costs will be added to participation fee, see www.ifep.eu

The costs have to be paid to Institut für Eignungsprüfung IfEP in advance. **Specimens will be sent to the participants upon payment by the participant.** The organiser will charge 25 % of the fee if the registration is cancelled four weeks prior to the start of the proficiency test. For cancellations later than this, the full amount will be charged.

| Company:   |               |          |                                  |                                 |  |
|--|---------------|----------|----------------------------------|---------------------------------|--|
| Department:  |               |          |                                  |                                 |  |
| Contact person:  Ms.   | Mr.           |          |                                  |                                 |  |
| Address:   |               |          |                                  | Date / signature / <b>stamp</b> |  |
| ZIP Code / City:   |               | С        | ountry:                          | □ german<br>□ english           |  |
| Telephone:   | Fax:          | E        | -Mail:                           |                                 |  |
| Necessary additional information: Your companies' tax identification number:                                   |               |          |                                  |                                 |  |
| Billing address ( <b>if differing</b> ):   |               | Delivery | Delivery address (if differing): |                                 |  |
|  |               |          |                                  |                                 |  |
| Further invoice-details, e.g   | g. cost unit: |          |                                  |                                 |  |
| I confirm with my signature that the service is carried out for my/our company (and not for a private person). |               |          |                                  |                                 |  |

Institut für Eignungsprüfung IfEP GmbH • Daimlerstraße 8 • D-45770 Marl • Dipl.-Ing. Christian Weißmüller • Prof. Dr.-Ing. Holger Frenz Tel.: +49 (0) 2365 / 209 00 09 • E-Mail: ifep@online.de • http://www.ifep.de