

| TC2- Cross Reference Table for Standards on Rotating Machinery |                                |                                 |   | <i>for information only</i>                                       |                               | updated 2021-10-15        | 2WG12(Secretary)123       |
|--|--------------------------------|---------------------------------|---|---|-------------------------------|---------------------------|---------------------------|
|  | Low voltage induction machines | High voltage induction machines | Synchronous machines (excluding generators driven by steam or gas turbines and PM machines) | Synchronous generators driven by steam or combustion gas turbines | PM synchronous machines       | DC machines               | AC commutator machines    |
| <b>Operating conditions</b>                                    |                                |                                 |   |   |                               |                           |                           |
| Site operating conditions                                      | 60034-1, 6.                    | 60034-1, 6.                     | 60034-1, 6.   | 60034-1, 6.   | 60034-1, 6.                   | 60034-1, 6.               | 60034-1, 6.               |
| Storage and transport  | 60034-1, 6.6                   | 60034-1, 6.6                    | 60034-1, 6.6  | 60034-1, 6.6  | 60034-1, 6.6                  | 60034-1, 6.6              | 60034-1, 6.6              |
| Electrical operating conditions                                | 60034-1, 7.                    | 60034-1, 7.                     | 60034-1, 7.   | 60034-1, 7 + 60034-3, 4.6   | 60034-1, 7.                   | 60034-1, 7.               | 60034-1, 7.               |
| <b>Requirements on electrical and thermal performance</b>      |                                |                                 |   |   |                               |                           |                           |
| Duty   | 60034-1, 4.                    | 60034-1, 4.                     | 60034-1, 4.   | 60034-1, 4.   | 60034-1, 4.                   | 60034-1, 4.               | 60034-1, 4.               |
| Rating   | 60034-1, 5.                    | 60034-1, 5.                     | 60034-1, 5.   | 60034-1, 5 + 60034-3, 4.2-4.5+7.3-7.4                             | 60034-1, 5. + 60034-20-1      | 60034-1, 5.               | 60034-1, 5.               |
| Thermal performance  | 60034-1, 8.                    | 60034-1, 8.                     | 60034-1, 8.   | 60034-1, 8 + 60034-3, 4.10.1                                      | 60034-1, 8.                   | 60034-1, 8.               | 60034-1, 8.               |
| Temperature rise   | 60034-1, 8.4 + 8.10            | 60034-1, 8.4 + 8.10             | 60034-1, 8.4 + 8.10   | 60034-1, 8.4+8.10 + 60034-3, 5.3+6.5                              | 60034-1, 8.4 + 8.10           | 60034-1, 8.4 + 8.10       | 60034-1, 8.4 + 8.10       |
| Occasional excess current                                      | 60034-1, 9.3                   | 60034-1, 9.3                    | 60034-1, 9.3  | 60034-1, 9.3 + 60034-3, 4.15                                      | 60034-1, 9.3                  | 60034-1, 9.3              | 60034-1, 9.3              |
| Short circuit current  | -                              | -                               | 60034-1, 9.8  | 60034-1, 9.8 + 60034-3, 4.16+4.19                                 | -                             | -                         | -                         |
| Harmonic Distortion  | -                              | -                               | 60034-1, 7.2+9.11   | 60034-1, 7.2+9.11   | -                             | -                         | -                         |
| Effect of unbalanced voltage supply                            | 60034-26                       | -                               | -   | -   | -                             | -                         | -                         |
| Effects of unbalanced currents                                 | -                              | -                               | 60034-1, 7.2.3  | 60034-1, 7.2.3  | -                             | -                         | -                         |
| <b>Requirements on mechanical performance</b>                  |                                |                                 |   |   |                               |                           |                           |
| Noise limits   | 60034-9, 6.                    | 60034-9, 6.                     | 60034-9, 6.   | -   | 60034-9, 6.                   | 60034-9, 6.               | 60034-9, 6.               |
| Mechanical vibration   | 60034-14                       | 60034-14                        | 60034-14  | -   | 60034-14                      | 60034-14                  | (60034-14)                |
| Momentary excess torque  | 60034-1, 9.4 + 9.5             | 60034-1, 9.4 + 9.5              | 60034-1, 9.4 + 9.5  | 60034-1, 9.4 + 9.5  | 60034-1, 9.4 + 9.5            | 60034-1, 9.4 + 9.5        | 60034-1, 9.4 + 9.5        |
| Safe operating speed / Overspeed                               | 60034-1, 9.6 + 9.7             | 60034-1, 9.6 + 9.7              | 60034-1, 9.7  | 60034-1, 9.3 + 60034-3, 4.12+4.13                                 | 60034-1, 9.7                  | 60034-1, 9.7              | 60034-1, 9.7              |
| Starting performance   | 60034-12                       | -                               | -   | 60034-3, 4.20+7.2.3   | 60034-20-1                    | -                         | -                         |
| Short circuit withstand  | -                              | -                               | 60034-1, 9.9  | 60034-3, 4.16   | 60034-1, 9.9                  | -                         | -                         |
| <b>Rating plates, Markings, Electrical Connection</b>          |                                |                                 |   |   |                               |                           |                           |
| Rating plates  | 60034-1, 10.                   | 60034-1, 10.                    | 60034-1, 10.  | 60034-1, 10. + 60034-3, 7.5                                       | 60034-1, 10. + 60034-20-1     | 60034-1, 10.              | 60034-1, 10.              |
| Tolerances   | 60034-1, 12                    | 60034-1, 12                     | 60034-1, 12   | 60034-1, 12 + 60034-3, 4.19                                       | 60034-1, 12                   | 60034-1, 12               | 60034-1, 12               |
| Terminal markings  | 60034-8                        | 60034-8                         | 60034-8, esp. 6.5   | 60034-3, 4.7  | 60034-8, esp. 6.5 + 60034-20- | 60034-8, esp. 6.6         | 60034-8                   |
| Protective Earthing  | 60034-1, 11.1                  | 60034-1, 11.1                   | 60034-1, 11.1   | 60034-1, 11.1   | 60034-1, 11.1                 | 60034-1, 11.1             | 60034-1, 11.1             |
| Thermal Protection   | 60034-11                       | -                               | -   | -   | 60034-11                      | 60034-11                  | 60034-11                  |
| Energy efficiency classes (IE)                                 | 60034-30-1 + 60034-30-2        | -                               | 60034-30-1 + 60034-30-2   | -   | 60034-30-1 + 60034-30-2       | -                         | -                         |
| <b>Mechanical Design</b>                                       |                                |                                 |   |   |                               |                           |                           |
| Terminal box location  | 60034-7, 3.5 + 60072-1, 4      | 60034-7, 3.5 + 60072-1, 4       | 60034-7, 3.5 + 60072-1, 4   | 60034-7, 3.5  | 60034-7, 3.5 + 60072-1, 4     | 60034-7, 3.5 + 60072-1, 4 | 60034-7, 3.5 + 60072-1, 4 |
| Frames and Flanges   | 60072-1                        | 60072-2                         | -   | -   | 60072-3 + 60034-20-1          | 60072-1                   | 60072-1                   |
| Shaft-end keys   | 60034-1, 11.2                  | 60034-1, 11.2                   | 60034-1, 11.2   | 60034-1, 11.2   | 60034-1, 11.2                 | 60034-1, 11.2             | 60034-1, 11.2             |
| Resilient mounting rings for small motors                      | 60991                          | -                               | -   | -   | 60991                         | 60991                     | 60991                     |
| Degrees of protection (IP)                                     | 60034-5, 4. + 5. + 6.          | 60034-5, 4. + 5. + 6.           | 60034-5, 4. + 5. + 6.   | 60034-5, 4. + 5. + 6.   | 60034-5, 4. + 5. + 6.         | 60034-5, 4. + 5. + 6.     | 60034-5, 4. + 5. + 6.     |
| Methods of cooling (IC)  | 60034-6                        | 60034-6                         | 60034-6   | 60034-6 + 60034-3, 5.2  | 60034-6                       | 60034-6                   | 60034-6                   |
| Types of construction (IM)                                     | 60034-7                        | 60034-7                         | 60034-7   | 60034-7   | 60034-7                       | 60034-7                   | 60034-7                   |
| <b>Methods of tests</b>  |                                |                                 |   |   |                               |                           |                           |
| Conditions for thermal tests                                   | 60034-1, 8.3                   | 60034-1, 8.3                    | 60034-1, 8.3  | 60034-1, 8 + 60034-3, 7.6   | 60034-1, 8.3                  | 60034-1, 8.3              | 60034-1, 8.3              |
| Determination of winding temperature                           | 60034-1, 8.6 ff                | 60034-1, 8.6 ff                 | 60034-1, 8.6 ff   | 60034-1, 8.6 ff + 60034-3, 5.3.1+6.6+                             | 60034-1, 8.6 ff               | 60034-1, 8.6 ff           | 60034-1, 8.6 ff           |
| Indirect testing of temperature rise                           | 60034-29                       | 60034-29                        | 60034-29  | 60034-29  | 60034-29                      | 60034-29                  | 60034-29                  |
| Measurement of bearing temperature                             | 60034-1, 8.9                   | 60034-1, 8.9                    | 60034-1, 8.9  | 60034-1, 8.9  | 60034-1, 8.9                  | 60034-1, 8.9              | 60034-1, 8.9              |
| Routine tests  | 60034-1, 9.1                   | 60034-1, 9.1                    | 60034-1, 9.1  | 60034-1, 9.1  | 60034-1, 9.1                  | 60034-1, 9.1              | 60034-1, 9.1              |
| Losses and Efficiency  | 60034-2-1, 8.                  | 60034-2-1, 8.                   | 60034-2-1, 9.   | 60034-2-1, 9.   | 60034-2-1, 9.                 | 60034-2-1, 7.             | 60034-2-1                 |
| Methods of efficiency test                                     | 60034-2-1, 6. + -2-2 + -2-3    | 60034-2-1, 6. + -2-2 + -2-3     | 60034-2-1, 7. + -2-2 + -2-3   | 60034-2-1, 7. + -2-2 + -2-3                                       | 60034-2-1, 7. + -2-2 + -2-3   | 60034-2-1, 8. + 60034-2-2 | 60034-2-1 + 60034-2-2     |
| Test of degrees of protection                                  | 60034-5, 7. ff                 | 60034-5, 7. ff                  | 60034-5, 7. ff  | 60034-5, 7. ff  | 60034-5, 7. ff                | 60034-5, 7. ff            | 60034-5, 7. ff            |
| Test of noise  | 60034-9, 5. + 7.               | 60034-9, 5. + 7.                | 60034-9, 5. + 7.  | (60034-9, 5. + 7.)  | 60034-9, 5. + 7.              | 60034-9, 5. + 7.          | 60034-9, 5. + 7.          |
| Test of mechanical vibration                                   | 60034-14, 7.                   | 60034-14, 7.                    | 60034-14, 7.  | (60034-14, 7.)  | 60034-9, 5. + 7.              | 60034-9, 5. + 7.          | 60034-9, 5. + 7.          |
| Overspeed test   | 60034-1, 9.7                   | 60034-1, 9.7                    | 60034-1, 9.7  | 60034-1, 9.7  | 60034-1, 9.7                  | 60034-1, 9.7              | 60034-1, 9.7              |
| Determination of quantities from tests                         | 60034-28                       | -                               | 60034-4-1   | 60034-4-1   | -                             | -                         | -                         |
| Short circuit withstand test                                   | -                              | -                               | 60034-1, 9.10   | 60034-1, 9.10 + 60034-3, 4.16                                     | -                             | -                         | -                         |
| Commutation test   | -                              | -                               | -   | -   | -                             | 60034-1, 9.10             | 60034-1, 9.10             |
| Specific tests   | -                              | -                               | -   | -   | 60034-20-1                    | 60034-19                  | -                         |
| Off-line partial discharge measurements                        | -                              | 60034-27-1                      | 60034-27-1  | 60034-27-1  | -                             | -                         | -                         |
| On-line partial discharge measurements                         | -                              | 60034-27-2                      | 60034-27-2  | 60034-27-2  | -                             | -                         | -                         |
| Loss tangent of coils and bars                                 | -                              | 60034-27-3                      | 60034-27-3  | 60034-27-3  | 60034-27-3                    | -                         | -                         |
| Static thrust applied to brushes                               | 61015                          | 61015                           | 61015   | 61015   | -                             | 61015                     | 61015                     |

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|--|--|---|---|---|--------------------------------------|--|---|
|  | Low voltage induction machines                               | High voltage induction machines   | Synchronous machines (excluding generators driven by steam or gas turbines and PM machines) | Synchronous generators driven by steam or combustion gas turbines | PM synchronous machines              | DC machines  | AC commutator machines                        |
|  | Operational characteristics of brushes                       | 60773   | 60773   | 60773   | -                                    | 60773  | 60773   |
|  | Physical properties of brush materials                       | 60413   | 60413   | 60413   | -                                    | 60413  | 60413   |
| <b>Requirements for Converter Operation</b>                    |  |   |   |   |                                      |  |   |
|  | Converter supplied standard motors                           | 60034-25, 18  | -   | -   | -                                    | -  | -   |
|  | Specifically designed converter motors                       | 60034-25  | 60034-25  | 60034-25  | -                                    | 60034-25   | -   |
|  | Rectifier-fed d.c. motors                                    | -   | -   | -   | -                                    | 60034-19   | -   |
| <b>Specific requirements</b>                                   |  |   |   |   |                                      |  |   |
|  | Electromagnetic compatibility                                | 60034-1, 13 + Ax. B   | 60034-1, 13 + Ax. B   | 60034-1, 13 + Ax. B   | -                                    | 60034-1, 13 + Ax. B + 60034-60034-1, 14 + 60034-20-1 | 60034-1, 13 + Ax. B                           |
|  | Safety   | 60034-1, 14   | 60034-1, 14   | 60034-1, 14   | 60034-1, 6.7+14. + 60034-3, Am.A     | 60034-1, 14 + 60034-20-1                             | 60034-1, 14                                   |
|  | Excitation systems   | -   | -   | 60034-16  | 60034-16                             | -  | -   |
|  | Refurbishing   | 60034-23  | 60034-23  | 60034-23  | 60034-23                             | 60034-23   | 60034-23                                      |
|  | Efficiency classification                                    | 60034-30-1, -30-2   | -   | 60034-30-1, -30-2   | -                                    | 60034-30-1, -30-2                                    | 60034-30-1                                    |
|  | Efficiency optimization                                      | 60034-31  | -   | -   | -                                    | 60034-31   | -   |
|  | <i>Explosion protection (TC 31)</i>                          | <i>60079</i>  | <i>60079</i>  | <i>60079</i>  | <i>60079 + 60034-1, 6.2-4</i>        | <i>60079</i>   | -   |
|  | Generator driven by reciprocating internal combustion engine | -   | -   | 60034-22  | -                                    | -  | -   |
|  | Detection and diagnosis of failures                          | 60034-24  | 60034-24  | 60034-24  | 60034-24                             | 60034-24   | -   |
|  | Brushes and brush holders                                    | 60560 + 60778   | 60560 + 60778   | 60560 + 60778   | -                                    | 60136 + 60276 + 60560                                | 60136 + 60276 + 60560                         |
|  | Commutators and slip rings                                   | 60356   | 60356   | 60356   | -                                    | 60356  | 60356   |
| <b>Insulation systems</b>                                      |  |   |   |   |                                      |  |   |
|  | Impulse voltage withstand level                              | -   | 60034-15  | 60034-15  | 60034-3, 4.10.2                      | -  | -   |
|  | Withstand voltage test                                       | 60034-1, 9.2  | 60034-1, 9.2  | 60034-1, 9.2  | 60034-1, 9.2 + 60034-3, 4.10.2       | 60034-1, 9.2   | 60034-1, 9.2                                  |
|  | Thermal endurance testing                                    | 60034-18-1, -18-21, -18-31  | 60034-18-1, -18-31  | 60034-18-1, -18-21, -18-31  | 60034-18-1, -18-31 + 60034-3, 4.10.1 | 60034-18-1, -18-21                                   | 60034-18-1, -18-21                            |
|  | Electrical endurance testing                                 | 60034-18-1, -18-32  | 60034-18-1, -18-32  | 60034-18-1, -18-32  | 60034-18-1, -18-32                   | 60034-18-1, -18-32                                   | 60034-18-1, -18-32                            |
|  | Combined stress endurance testing                            | -   | 60034-18-1, -18-33  | 60034-18-1, -18-33  | 60034-18-1, -18-33                   | -  | 60034-18-1, -18-33                            |
|  | Tests for converter fed machines                             | 60034-18-1, -18-41  | 60034-18-1, -18-42  | 60034-18-1, -18-41, -18-42  | 60034-18-1, -18-42                   | 60034-18-1, -18-41                                   | 60034-18-1, -18-41, -18-42                    |
|  | PD measurements under impulse voltage                        | 60034-18-41   | -   | 60034-18-1, -18-41  | -                                    | 60034-18-41  | 60034-18-41                                   |
|  | Thermomechanical testing                                     | 60034-18-1, -18-34  | 60034-18-1, -18-34  | 60034-18-1, -18-34  | 60034-18-1, -18-34                   | 60034-18-1, -18-34                                   | 60034-18-1, -18-34                            |
|  | Insulation component substitution                            | 60034-18-1  | 60034-18-1  | 60034-18-1  | 60034-18-1                           | 60034-18-1   | 60034-18-1                                    |
| <b>Standards published by TC2</b>                              |  |   |   |   |                                      |  |   |
|  | <i>Standard</i>  | <i>Name</i>   |   |   | <i>Current edition</i>               | <i>Maintained by</i>                                 | <i>Maintenance status</i>                     |
| IEC  | 60034-1  | Rotating electrical machines - Part 1: Rating and performance   |   |   | Edition 13.0 (2017-05)               | WG12/MT1   | Under revision, publication expected for 2022 |
| IEC  | 60034-2-1  | Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)   |   |   | Edition 2.0 (2014-06)                | WG28   | Under revision, publication expected for 2024 |
| IEC  | 60034-2-2  | Rotating electrical machines - Part 2-2: Specific methods for determining separate losses of large machines from tests, supplementing Part 2-1          |   |   | Edition 1.0 (2010-03)                | WG28   | Under revision, publication expected for 2024 |
| IEC  | 60034-2-3  | Rotating electrical machines - Part 2-3: Specific test methods for determining losses and efficiency of converter-fed AC motors                         |   |   | Edition 1.0 (2020-03)                | WG28   | Under revision, publication expected for 2024 |
| IEC  | 60034-3  | Rotating electrical machines - Part 3: Specific requirements for synchronous generators driven by steam turbines or combustion gas turbines             |   |   | Edition 7.0 (2020-05)                | MT6  | Next revision not before 2025                 |
| IEC  | 60034-4-1  | Rotating electrical machines - Part 4-1: Methods for determining electrically excited synchronous machine quantities from tests                         |   |   | Edition 1.0 (2018-04)                | WG28   | Next revision not before 2028                 |
| IEC  | 60034-5  | Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification |   |   | Edition 5.0 (2020-04)                | MT5  | Next revision not before 2028                 |
| IEC  | 60034-6  | Rotating electrical machines - Part 6: Methods of cooling (IC code)   |   |   | Edition 2.0 (1991-09)                | MT5  | Next revision not before 2028                 |
| IEC  | 60034-7  | Rotating electrical machines - Part 7: Classification of types of enclosures and mounting arrangements (IM code)  |   |   | Edition 3.0 (2020-10)                | MT5  | Next revision not before 2028                 |
| IEC  | 60034-8  | Rotating electrical machines - Part 8: Terminal markings and direction of rotation  |   |   | Edition 3.1 (2014-03)                | MT3  | Next revision not before 2028                 |
| IEC  | 60034-9  | Rotating electrical machines - Part 9: Noise limits   |   |   | Edition 5.0 (2021-10)                | MT2  | Next revision not before 2024                 |
| IEC  | 60034-11   | Rotating electrical machines - Part 11: Thermal protection  |   |   | Edition 3.0 (2020-10)                | WG12/MT1   | Next revision not before 2028                 |
| IEC  | 60034-12   | Rotating electrical machines - Part 12: Starting performance of single-speed three-phase cage induction motors.   |   |   | Edition 3.0 (2016-11)                | WG12/MT1   | Under revision, publication expected for 2025 |

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|  |                | Low voltage induction machines   | High voltage induction machines | Synchronous machines (excluding generators driven by steam or gas turbines and PM machines) | Synchronous generators driven by steam or combustion gas turbines | PM synchronous machines                        | DC machines         | AC commutator machines                              |
| IEC  | 60034-14       | Rotating electrical machines - Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration severity  |                                 |   |   | Edition 4.0 (2018-08)                          | MT7                 | Next revision not before 2024                       |
| IEC  | 60034-15       | Rotating electrical machines - Part 15: Impulse voltage withstand levels of rotating a.c. machines with form-wound stator coils  |                                 |   |   | Edition 3.0 (2009-03)                          | MT10                | Under revision, publication expected for 2023       |
| IEC  | 60034-16-1     | Rotating electrical machines - Part 16-1: Excitation systems for synchronous machines - Definitions  |                                 |   |   | Edition 2.0 (2011-05)                          | MT12                | Under revision, publication expected for 2023       |
| IEC  | 60034-16-2 TR  | Rotating electrical machines - Part 16-2: Excitation systems for synchronous machines - Models for power system studies  |                                 |   |   | Edition 1.0 (1991-02)                          | MT12                | Under revision, publication expected for 2023       |
| IEC  | 60034-16-3 TS  | Rotating electrical machines - Part 16-3: Excitation systems for synchronous machines - Dynamic performance  |                                 |   |   | Edition 1.0 (1996-02)                          | MT12                | Under revision, publication expected for 2023       |
| IEC  | 60034-18-1     | Rotating electrical machines - Part 18-1: Functional evaluation of insulation systems - General guidelines   |                                 |   |   | Edition 2.0 (2010-03)                          | MT10                | Under revision, publication expected for 2023       |
| IEC  | 60034-18-21    | Rotating electrical machines - Part 18-21: Functional evaluation of insulation systems - Test procedures for wire-wound windings - Thermal evaluation and classification   |                                 |   |   | Edition 2.0 (2012-09)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-18-31    | Rotating electrical machines - Part 18-31: Functional evaluation of insulation systems - Test procedures for form-wound windings - Thermal evaluation and classification of insulation systems used in machines up to and including 50 MVA and 15 kV                   |                                 |   |   | Edition 2.0 (2012-06)                          | MT10                | Next revision not before 2022                       |
| IEC  | 60034-18-32    | Rotating electrical machines - Part 18-32: Functional evaluation of insulation systems - Test procedures for form-wound windings - Electrical evaluation of insulation systems used in machines up to and including 50 MVA and 15 kV                                   |                                 |   |   | Edition 1.0 (2010-10)                          | MT10                | Under revision, publication expected for 2022       |
| IEC  | 60034-18-33 TS | Rotating electrical machines - Part 18-33: Functional evaluation of insulation systems - Test procedures for form-wound windings - Multifactor functional evaluation - Endurance under combined thermal and electrical stresses of insulation systems used in machines |                                 |   |   | Edition 2.0 (2010-07)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-18-34    | Rotating electrical machines - Part 18-34: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of thermomechanical endurance of insulation systems  |                                 |   |   | Edition 1.0 (2012-06)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-18-41    | Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters - Qualification and quality control tests  |                                 |   |   | Edition 1.1 (2019-06)                          | MT10                | Under revision, publication expected for 2024       |
| IEC  | 60034-18-42    | Rotating electrical machines - Part 18-42: Qualification and acceptance tests for Type II electrical insulation systems used in rotating electrical machines fed from voltage converters   |                                 |   |   | Edition 1.1 (2020-08)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-19       | Rotating electrical machines - Part 19: Specific test methods for d.c. machines on conventional and rectifier-fed supplies   |                                 |   |   | Edition 2.0 (2014-09)                          | WG28                | Next revision not before 2028                       |
| IEC  | 60034-20-1 TS  | Rotating electrical machines - Part 20-1: Control motors - Stepping motors   |                                 |   |   | Edition 1.0 (2002-01)                          | WG12/MT1            | Standard shall be withdrawn in 2022                 |
| IEC  | 60034-22       | Rotating electrical machines - Part 22: AC generator for reciprocating internal combustion (RIC) engine driven generating sets   |                                 |   |   | Edition 2.0 (2009-10)                          | WG12/MT1            | Standard shall be withdrawn in 2022                 |
| IEC  | 60034-23       | Rotating electrical machines - Part 23: Repair, overhaul and reclamation   |                                 |   |   | Edition 1.0 (2019-01)                          | MT13                | Next revision not before 2028                       |
| IEC  | 60034-24 TS    | Rotating electrical machines - Part 24: Detection and diagnosis of failures at the active parts of rotating electrical machines and of bearing currents  |                                 |   |   | Edition 1.0 (2009-09)                          | WG12/MT1            | Next revision not before 2028                       |
| IEC  | 60034-25 TS    | Rotating electrical machines - Part 25: Guide for the design and performance of cage induction motors specifically designed for converter supply   |                                 |   |   | Edition 3.0 (2014-10)                          | MT9                 | Under revision, publication expected for 2022       |
| IEC  | 60034-26       | Rotating electrical machines - Part 26: Effects of unbalanced voltages on the performance of three-phase induction motors  |                                 |   |   | Edition 1.0 (2006-07)<br>Corrigendum (2014-09) | WG12/MT1            | Next revision not before 2024                       |
| IEC  | 60034-27-1     | Rotating electrical machines - Part 27-1: Partial discharge off-line measurements on the stator winding insulation of rotating machinery   |                                 |   |   | Edition 1.0 (2017-12)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-27-2 TS  | Rotating electrical machines - Part 27-2: On-line partial discharge measurements on the stator winding insulation of electrical machines   |                                 |   |   | Edition 1.0 (2012-03)                          | MT10                | Under revision, publication as IS expected for 2023 |
| IEC  | 60034-27-3     | Rotating electrical machines - Part 27-3: Dissipation factor measurements on the stator winding insulation of electrical machines  |                                 |   |   | Edition 1.0 (2015-12)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-27-4     | Rotating electrical machines - Part 27-4: Measurement of insulation resistance and polarization index on winding insulation of rotating electrical machines  |                                 |   |   | Edition 1.0 (2018-01)                          | MT10                | Next revision not before 2023                       |
| IEC  | 60034-27-5 TS  | Rotating electrical machines - Part 27-5: Off-line partial discharge tests on winding insulation of rotating electrical machines during repetitive impulse voltage excitation  |                                 |   |   | Edition 1.0 (2021-04)                          | MT10                | Next revision not before 2026                       |
| IEC  | 60034-27-7 TS  | Rotating electrical machines - Part 27-7: Insulation systems used in rotating electrical machines for sealed and moisture resistant windings - type and quality control tests  |                                 |   |   |  | MT10                | Under development, publ. expected for 2024          |
| IEC  | 60034-28       | Rotating electrical machines - Part 28: Test methods for determining quantities of equivalent circuit diagrams for three-phase cage induction motors   |                                 |   |   | Edition 2.0 (2012-12)                          | WG28                | Next revision not before 2026                       |
| IEC  | 60034-29       | Rotating electrical machines - Part 29: Equivalent loading and super-position techniques - Indirect testing to determine temperature rise  |                                 |   |   | Edition 1.0 (2008-03)                          | WG28                | Next revision not before 2028                       |
| IEC  | 60034-30-1     | Rotating electrical machines - Part 30-1: Efficiency classes of line operated AC motors (IE code)  |                                 |   |   | Edition 1.0 (2014-03)                          | WG31                | Next revision not before 2023                       |
| IEC  | 60034-30-2 TS  | Rotating electrical machines - Part 30-2: Efficiency classes of variable speed AC motors (IE-code)   |                                 |   |   | Edition 1.0 (2016-12)                          | WG31                | Next revision not before 2023                       |
| IEC  | 60034-30-3     | Rotating electrical machines - Part 30-3: Efficiency classes of high voltage AC motors (IE code)   |                                 |   |   |  | WG31                | Under development, publ. expected for 2023          |

| <b>TC2- Cross Reference Table for Standards on Rotating Machinery</b> |                 |   |  | <i>for information only</i>  |  | <b>updated 2021-10-15</b>      | <b>2WG12(Secretary)123</b>                     |   |
|---|-----------------|---|--|--|--|--------------------------------|--|---|
|   |                 | <b>Low voltage induction machines</b>   | <b>High voltage induction machines</b> | <b>Synchronous machines (excluding generators driven by steam or gas turbines and PM machines)</b> | <b>Synchronous generators driven by steam or combustion gas turbines</b> | <b>PM synchronous machines</b> | <b>DC machines</b>                             | <b>AC commutator machines</b>                 |
| IEC   | 60034-31 TS     | Rotating electrical machines: Part 31: Selection of energy-efficient motors including variable-speed applications - Application guide   |  |  |  | Edition 2.0 (2021-03)          | WG31   | Next revision not before 2026                 |
| IEC   | 60034-32 TS     | Rotating electrical machines: Part 32: Measurement of stator end-winding vibration at form-wound windings   |  |  |  | Edition 1.0 (2016-12)          | WG32   | Next revision not before 2023                 |
| IEC   | 60034-33        | Rotating electrical machines - Part 33: Specific technical requirements for hydro generators  |  |  |  |                                | WG33   | Under development, publ. expected for 2022    |
| IEC   | 60034-34 TS     | Rotating electrical machines - Part 34: Specific technical requirements for AC adjustable speed rolling mill main motors  |  |  |  | Edition 1.0 (2020-11)          | WG34   | Next revision not before 2023                 |
| IEC   | 60034-35        | Rotating electrical machines - Part 35: Technical requirements for electrical sheet metal and strip metal used in electrical machines   |  |  |  |                                | WG12/MT1                                       | Under development, publ. expected for 2024    |
| IEC   | 60072-1         | Dimensions and output series for rotating electrical machines - Part 1: Frame numbers 56 to 400 and flange numbers 55 to 1080   |  |  |  | Edition 6.0 (1991-03)          | MT5  | Under revision, publication expected for 2022 |
| IEC   | 60072-2         | Dimensions and output series for rotating electrical machines - Part 2: Frame numbers 355 to 1000 and flange numbers 1180 to 2360   |  |  |  | Edition 1.0 (1990-12)          | MT5  | Next revision not before 2023                 |
| IEC   | 60072-3         | Dimensions and output series for rotating electrical machines - Part 3: Small built-in motors - Flange numbers BF10 to BF50   |  |  |  | Edition 1.0 (1994-03)          | MT5  | Next revision not before 2023                 |
| IEC   | 60136           | Dimensions of brushes and brush-holders for electric machinery  |  |  |  | Edition 2.0 (1986-06)          | MT14   | Under revision, publication expected for 2023 |
| IEC   | 60276           | Carbon brushes, brush holders, commutators and slip-rings - Definitions and nomenclature  |  |  |  | Edition 2.0 (2018-05)          | MT14   | Next revision not before 2028                 |
| IEC   | 60356           | Dimensions for commutators and slip-rings   |  |  |  | Edition 1.0 (1971-01)          | MT14   | Under revision, publication expected for 2023 |
| IEC   | 60413           | Test procedures for determining physical properties of brush materials for electrical machines  |  |  |  | Edition 1.0 (1972-01)          | MT14   | Under revision, publication expected for 2023 |
| IEC   | 60560           | Definitions and nomenclature of brush-holders for electrical machines   |  |  |  | Edition 1.0 (1977-01)          | MT14   | Under revision, publication expected for 2026 |
| IEC   | 60773           | Test methods and apparatus for the measurement of the operational characteristics of brushes  |  |  |  | Edition 2.0 (2021-04)          | MT14   | Next revision not before 2028                 |
| IEC   | 60778 TR        | Brush-holders for slip-rings, group R - type RA   |  |  |  | Edition 1.0 (1984-01)          | MT14   | Next revision not before 2026                 |
| IEC   | 61015 TR        | Brush-holders for electrical machines - Guide for the measurement of the static thrust applied to brushes   |  |  |  | Edition 1.0 (1990-03)          | MT14   | Next revision not before 2026                 |
| IEC   | 63021 TR        | Rotating electrical machinery - Natural graphite brush for slip-ring in wound rotor-type induction motor - Application information  |  |  |  | Edition 1.0 (2016-09)          | MT14   | Next revision not before 2023                 |
| IEC   | 88528-11        | Reciprocating internal combustion engine driven alternating current generating sets - Part 11: Rotary uninterruptible power systems - Performance requirements and test methods |  |  |  | Edition 1.0 (2004-03)          | WG12/MT1                                       | Next revision not before 2022                 |
| Publications of other TCs with content maintained by TC2              |                 |   |  |  |  |                                |  |   |
|   | <i>Standard</i> | <i>Name</i>   |  |  |  | <i>Current edition</i>         | <i>Maintained by</i>                           | <i>Maintenance status</i>                     |
| IEC   | 60027-4         | Letter symbols to be used in electrical technology - Part 4: Rotating electric machines   |  |  |  | 2006-12                        | TC27 WG4                                       |   |
| IEC   | 60050-411       | International Electrotechnical Vocabulary - Chapter 411: Rotating machinery   |  |  |  | 1996-06, 2007-11 Am 1          | TC1  |   |
| Publications withdrawn by TC2   |                 |   |  |  |  |                                |  |   |
|   | <i>Standard</i> | <i>Name</i>   |  |  |  | <i>Withdrawn since</i>         | <i>Reason for withdrawal</i>                   |   |
| IEC   | 60034-17 TS     | Cage induction motors when fed from converters - Application guide  |  |  |  | 2014                           | Content is now integrated in IEC 60034-25 TS   |   |
| IEC   | 60034-18-22     | Functional evaluation of insulation systems - Test procedures for wire-wound windings - Classification of changes and insulation component substitutions                        |  |  |  | 2015                           | Relevance lost                                 |   |
| IEC   | 60034-30        | Rotating electrical machines - Part 30: Efficiency classes for single speed three-phase cage induction motors (IE code)   |  |  |  | 2014-03                        | Replaced by IEC 60034-30-1                     |   |
| IEC   | 60279           | Measurement of the winding resistance of an a.c. machine during operation at alternating voltage  |  |  |  | 2008-01                        | Relevance lost                                 |   |
| IEC   | 60681-1         | Dimensions of small power motors for definite purpose application - Part 1: Oil burner motors   |  |  |  | 2006-12                        | No longer referenced in TC 61 standards        |   |
| IEC   | 60842 : 1988    | Guide for application and operation of turbine-type synchronous machines using hydrogen as a coolant.   |  |  |  | 2006                           | Content has been integrated into IEC 60034-3   |   |
| IEC   | 60894 TR        | Guide for a test procedure for the measurement of loss tangent of coils and bars for machine windings   |  |  |  | 2016                           | Replaced by IEC 60034-27-3                     |   |
| IEC   | 60991           | Resilient mounting rings for small motors - Housing dimensions  |  |  |  |                                | Merged with other standard                     |   |
| IEC   | 61972           | Method for determining losses and efficiency of three-phase cage induction motors   |  |  |  | 2007-12                        | Content has been integrated into IEC 60034-2-1 |   |
| IEC   | 61986           | Rotating electrical machines - Equivalent loading and superposition techniques - Indirect testing to determine temperature rise   |  |  |  | 2008-03                        | Content now published as IEC 60034-29          |   |