

# ISO 4215:2022-09 (E)

## Corrosion of metals and alloys - Test method for high-temperature corrosion testing of metallic materials by thermogravimetry under isothermal or cyclic conditions

---

| <b>Contents</b>    |  | <b>Page</b> |
|--------------------|--|-------------|
| Foreword .....     |  | iv          |
| Introduction ..... |  | v           |
| <b>1</b>           | <b>Scope .....</b>   | <b>1</b>    |
| <b>2</b>           | <b>Normative references .....</b>                            | <b>1</b>    |
| <b>3</b>           | <b>Terms and definitions .....</b>                           | <b>1</b>    |
| <b>4</b>           | <b>Test method .....</b>                                     | <b>2</b>    |
| 4.1                | Principle .....  | 2           |
| 4.2                | Test pieces .....  | 3           |
| <b>5</b>           | <b>Test apparatus .....</b>                                  | <b>5</b>    |
| 5.1                | Thermobalance .....  | 5           |
| 5.2                | Furnace .....  | 6           |
| 5.3                | Temperature probe .....                                      | 6           |
| 5.4                | Data acquisition device .....                                | 7           |
| 5.5                | Test piece holder .....                                      | 7           |
| 5.6                | Reactive gas and gas flow .....                              | 7           |
| 5.7                | Protection of the thermobalance .....                        | 7           |
| <b>6</b>           | <b>Calibration .....</b>                                     | <b>8</b>    |
| 6.1                | Mass calibration .....                                       | 8           |
| 6.2                | Thermocouple calibration .....                               | 8           |
| <b>7</b>           | <b>Procedure .....</b>                                       | <b>8</b>    |
| 7.1                | General .....  | 8           |
| 7.2                | Isothermal test .....  | 8           |
| 7.3                | Cyclic test .....  | 9           |
| <b>8</b>           | <b>Expression of results -- Graphical presentation .....</b> | <b>9</b>    |
| <b>9</b>           | <b>Analysis of the mass change .....</b>                     | <b>9</b>    |
| 9.1                | General .....  | 9           |
| 9.2                | Isothermal exposure .....                                    | 9           |
| 9.3                | Thermal cycling exposure .....                               | 10          |
| <b>10</b>          | <b>Test report .....</b>                                     | <b>11</b>   |
| 10.1               | Test report contents .....                                   | 11          |
| Bibliography ..... |  | 13          |