

ISO 2063-1:2017-09 (E)

Thermal spraying - Zinc, aluminium and their alloys - Part 1: Design considerations and quality requirements for corrosion protection systems

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Criteria for corrosion and corrosion protection by thermal-sprayed coatings	3
4.1	General	3
4.2	Corrosivity categories and environment conditions	3
4.3	Corrosion rate	3
4.4	Coating materials and corrosion behaviour	3
4.4.1	General	3
4.4.2	Zinc and zinc alloys	4
4.4.3	Aluminium and aluminium alloys	4
5	Requirements for the corrosion protection systems and their planning	4
5.1	General rules -- Technical requirements	4
5.2	Used spray materials and coating thickness	5
5.2.1	Spray materials	5
5.2.2	Coating thickness	5
5.3	Construction design requirements for iron and steel components for thermal spraying	6
5.3.1	General	6
5.3.2	Recommendations for the design of the part -- Avoidance of corrosion creating areas	6
5.3.3	Requirements for welding in combination with thermal-sprayed protective coatings	6
5.3.4	Thermal spraying of corrosion protected fastenings	6
6	Pre-conditions and requirements for the manufacturing process	6
6.1	General -- Requirements	6
6.2	Reference areas	6
6.3	Preparation of the surface to be coated	7
6.4	Thermal spraying	7
6.5	Sealing of thermal-sprayed coatings	7
6.6	Metallic coatings and additional organic top coatings	8
6.7	Requirements for the tests -- Test procedures	8
6.7.1	General	8
6.7.2	Visual inspection -- Appearance	8
6.7.3	Coating thickness	8
6.7.4	Adhesion strength	9
6.7.5	Metallographic investigation	9
7	Requirements for the manufacturer	9
7.1	General	9
7.2	Coating specification -- Requirements for the spray coating	9
8	Documentation	10
Annex A (informative)	Corrosivity categories -- Environment conditions -- Exposure	11

Annex B (informative) Summary of the corrosion behaviour of thermal-sprayed coatings of zinc, aluminium and their alloys	13
Annex C (informative) Recommended values for the thickness of the metallic coating	15
Annex D (informative) Examples of design and explanations	17
Annex E (informative) Example test certificate for work specimen for thermal sprayer used	Annex F
(informative) Appearance of surfaces in different treated conditions	25
Annex G (informative) Checklist for this document -- Work and test steps and connection to relevant standards or recommendations	26
Bibliography	28