

ISO 21809-1:2011-07 (E)

Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 1: Polyolefin coatings (3-layer PE and 3-layer PP)

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Conformance	1
2.1	Rounding	1
2.2	Compliance to standard	1
3	Normative references	1
4	Terms and definitions	3
5	Symbols and abbreviated terms	6
5.1	Symbols	6
5.2	Abbreviations	6
6	Information supplied by the purchaser	7
6.1	General information	7
6.2	Additional information	7
7	Coating classification	8
7.1	General	8
7.2	Coating classes	8
7.3	Coating thickness classes	8
8	Coating materials	9
8.1	Composition of the coating system	9
8.2	Qualification of the coating materials	9
8.3	Batch certificate	11
8.4	Storage and handling of coating materials	13
9	Coating system qualification	13
9.1	General	13
9.2	Application procedure specification	13
9.3	Procedure qualification trial	15
9.4	Inspection and testing plan	15
10	Application of the coating system	15
10.1	Surface preparation	15
10.2	Coating application	16
10.3	Cutback	16
11	Inspection and testing	17
11.1	General	17
11.2	Retesting	18
12	Coating repairs	19

13	Marking	19
13.1	General	19
13.2	Required markings	19
14	Handling and storage in the applicators facilities	19
14.1	Handling	19
14.2	Storage	20
15	Test reports and certificate of compliance	20
	Annex A (normative) Inspection of thickness	21
	Annex B (normative) Holiday detection test	22
	Annex C (normative) Peel strength test	23
	Annex D (normative) Thermal analysis of epoxy and cured epoxy coating film	28
	Annex E (normative) Impact test	33
	Annex F (normative) Indentation test	35
	Annex G (normative) UV ageing test and thermal ageing test	36
	Annex H (normative) Cathodic disbondment test	39
	Annex I (normative) Flexibility test	43
	Annex J (normative) Gel time of the epoxy powder	45
	Annex K (normative) Total volatile/moisture content of the epoxy powder -- Mass loss	47
	Annex L (normative) Procedure qualification trial, inspection and testing plan and daily log	49
	Annex M (normative) Hot water immersion test	50
	Annex N (normative) Density of epoxy powder	52
	Bibliography	54