DIN EN 19694-4:2016-10 (E)

Stationary source emissions - Determination of greenhouse gas (GHG) emissions in energy-intensive industries - Part 4: Aluminium ind ustry

Contents

Page

European foreword 3

Introduction 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 List of abbreviated terms 5

5 Symbols, units and chemical formulae 6
5.1 Symbols and units 6
5.2 Chemical formulae 7

6 Calculation methods - General remarks 8
6.1 Introduction 8
6.2 Calculation methods for process GHG emissions from primary aluminium production 8
6.3 Sources of carbon dioxide 9
6.4 Sources of PFC 9

7 Methods for calculation of process carbon dioxide emissions 10
7.1 General 10
7.2 Tier 1 - Method using process specific equations with technology typical parameters for carbon dioxide emissions 10
7.3 Tier 2 - Method using process specific equations with facility specific parameters for carbon dioxide emissions 10
7.4 Calculation of carbon dioxide emissions from prebake processes 10
7.5 Baking furnace carbon dioxide emissions 12
7.6 Calculation of carbon dioxide emissions from the Søderberg process 16

8 Methods for calculation of PFC emissions 18
8.1 Introduction 18
8.2 Tier 1 method for calculating PFC emissions 18
8.3 Tier 2 method for calculating PFC emissions 19
8.4 Calculation of PFC emissions from aluminium reduction processes 19
8.5 Verification of GHG calculation 22

9 Key performance indicators 22

Bibliography 24