DIN EN 17645:2022-11 (E)

Domestic swimming pools - Environmental performance efficiency - Performance evaluation, methodology, and classification of the use of outdoor pools and their equipment

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Design, evaluation and operational requirements for swimming pool equipment / functions 11
4.1 General 11
4.1.1 Objectives 11
4.1.2 Electrical consumption of equipment not connected to the mains 12
4.2 Measurement of electric power 12
4.2.1 Absorbed power in active mode 12
4.2.2 Absorbed power in standby mode 12
4.3 Water consumption 13
4.3.1 General 13
4.3.2 Filling / topping up the basin 13
4.3.3 Backwash and drainage water 14
4.3.4 Water losses due to evaporation 16
4.3.5 Rejects or losses 16
4.3.6 Influence of rain water 16
4.4 Basin 17
4.4.1 Structure 17
4.4.2 Filtration systems and hydraulic connections 23
4.4.3 Water treatment systems 30
4.5 Peripheral equipment 32
4.5.1 Heating systems 32
4.5.2 Lighting systems 41
4.5.3 Covers 42
4.5.4 Basin cleaning systems 46

5 Environmental performance efficiency of swimming pools 46
5.1 Purpose and principle 46
5.1.1 General 46
5.1.2 Purpose 47
5.1.3 Principle 47
5.1.4 Specific cases and interactions 47
5.2 Methodology 48
5.2.1 Energy class coefficient C of the functions / equipment of the basin 48
5.2.2 Coefficient F of the duration of use of the functions / equipment of the basin 50
5.2.3 Power coefficient P of the function / equipment of the basin 50
5.3 Overall basic equipment efficiency index of the swimming pool 51

6 Consumer information 52
6.1 General 52

6.2 Point-of-purchase information 52
6.2.1 General 52
6.2.2 Environmental performance communication about the equipment 54

Annex A (normative) Method for the evaluation of the energy performance of pumps 65

A.1 Objective 65
A.2 Principle 65
A.3 Reference hydraulic connections curves 65
A.3.1 General 65
A.3.2 Test methods for conventional hydraulic connections curves (pump technical unit located below the water level) 65
A.3.3 Test methods for hydraulic connections curves with the pump technical unit built into the structure (filtration compact system) or adjoining the structure 67
A.3.4 Curve selection rule 68
A.4 Determination of the operating point 69

Annex B (informative) Complementary information related to calculation of flow velocity in hydraulic connection 70

Annex C (normative) Evaluation table of water treatment system 73

C.1 Evaluation table 73
C.2 Explanatory notes 74

Annex D (normative) Communication on environmental performance efficiency 75

D.1 General 75
D.2 Water consumption calculation 75

Bibliography 78