

ISO 11342:1998-04 (E)

Mechanical vibration - Methods and criteria for the mechanical balancing of flexible rotors

Contents		Page
1	Scope	1
2	Normative references	1
3	Definitions	2
4	Fundamentals of flexible rotor dynamics and balancing	2
5	Rotor configurations	6
6	Procedures for balancing flexible rotors at low speed	9
7	Procedures for balancing flexible rotors at high speed	12
8	Evaluation criteria	17
9	Evaluation procedures	22

Annexes

A (informative)	Cautionary notes concerning rotors on site	26
B (informative)	Optimum planes balancing — Low-speed three-plane balancing	27
C (informative)	Conversion factors	29
D (informative)	Calculation of equivalent mode residual unbalance	30
E (informative)	Procedure to determine if a rotor is rigid or flexible	33
F (informative)	Example — Permissible equivalent modal unbalance calculations	35
G (informative)	A method of computation of unbalance correction	36
H (informative)	Definitions from ISO 1925:1990 and ISO 1925:1990/Amd 1:1995 relating to flexible rotors	37
I (informative)	Bibliography	39

Tables

1	Flexible rotors	7
2	Balancing procedures	9
C.1	Suggested conversion factor ranges	29

Figures

1	Simplified mode shapes for flexible rotors on flexible supports	3
2	Examples of possible damped mode shapes	4
B.1	Graphical presentation for determination of H	28
D.1	Turbine rotor	30
D.2	Run-up curve — Before balancing	31
G.1	Vectorial effect of a trial mass set.....	36