

ICS 27.040
CCS K 54



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 28574-2012

**Petroleum, petrochemical and natural gas industries steam
turbines -- Special-purpose applications**

石油、石化和天然气工业 特种用途汽轮机

(English Translation)

Issued on: June 29, 2012

Implemented on: November 1, 2012

Issued by: Standardization Administration of China

Table of Contents

Introduction	
Introduction	
1 Scope	
2 Normative references	
3 Terms and definitions	
4 Size	
5 Legal Requirements	
6 Host Design	
6.1 General	
6.2 Nameplate and turn arrows	
7 Cylinder	
7.1 Pressure cylinder	
7.2 Cylinder interface	
7.3 Internal stationary member	
7.4 External forces and torques	
8 Rotating member	
8.1 General	
13 8.2 Spindle	
8.3 Blade	
8.4 Speed sensor	
9 14 rotor dynamics	
9.1 General	
9.2 Transverse vibration analysis	
9.3 Rotor unbalance response verification test	
9.4 Additional tests	
9.5 Torsional Vibration Analysis	
9.6 Vibration and balance	
10 Bearings, bearing and shaft seal	
10.1 Radial bearing	
10.2 Thrust bearing and thrust plate	
10.3 Bearing	
23 10.4 Ground	

10.5	Shaft seal	
11	Materials	
11.1	General	
25	11.2 Casting	
11.3	Welding	
12	Controllers and measuring devices	
12.1	General	
12.2	Regulation System	
12.3	Overspeed shutdown system	
12.4	Other alarm and shutdown systems	
12.5	Dashboard and control panel	
32	12.6 Display instrument	
13	Electrical System	
	Pipes and accessories	14
14.1	General	
33	14.2 Oil Pipeline	
14.3	Meter pipe	
15	Auxiliary device	
15.1	Coupling and shroud	
15.2	Gears	
15.3	Mounting plate	
15.4	Valve	
15.5	Lubrication and control oil system	
15.6	Vapor seal vacuum system	
15.7	Insulating layer and the outer cover	
15.8	Car	
37	15.9 Special tools	
16	Inspection, testing and preparation for shipment	
16.1	General	
37	16.2 Inspection	
16.3	Test	
42	16.4 ready for shipment	
17	43 supplier information	
17.1	General	
17.2	Quotations	

Foreword

GB/T 28574 "petroleum, petrochemical and natural gas industries Turbine special purpose" and GB/T 28573 "petroleum, petrochemical and natural gas workers General purpose turbine industry" together constitute the petroleum, petrochemical and natural gas industries steam turbine product standards.

This standard rule according to GB/T 1.1-2009 given draft.

This standard uses redrafted law revision adopted ISO 10437:2003 "Petroleum, petrochemical and natural gas industries special purpose steam turbine." this standard and ISO 10437. compared to 2003 in the structure added three informative appendix (Appendix A, Appendix B, Appendix C).

This standard and ISO 10437:2003 technical differences are as follows.

--- Situation on normative references, this standard to make appropriate adjustments to suit our technical conditions, reflected in the adjustment of the focus Chapter 2, "Normative references", the degree of consistency between the documents and international instruments Appendix A. specific adjustments as follows.

- with GB 3836 (all parts) in place of IEC 60079 (all parts);
- with the GB/T 4772 (all parts) in place of IEC 60072 (all parts);
- with the GB/T 7306 (all parts) in place of ISO 7-1;
- with the GB/T 8117 (all parts) in place of IEC 60953 (all parts);
- with the GB/T 17241 (all parts) in place of ISO 7005-2.

GB/T 9144 common thread preferred series (GB/T 9144-2003, ISO 262:1998, MOD) GB/T 9145 common thread moderate accuracy, preferably series limit size (GB/T 9145-2003, ISO 965-2:1998, MOD) GB/T 9239.1 mechanical vibration steady state (rigid) rotor balance quality requirements - Part 1. Specification and balance tolerance test (GB/T 9239.1-2006, ISO 1940-1:2003, IDT) GB/T 10894 separate mechanical noise test method (GB/T 10894-2004, ISO 3744:1994, NEQ) GB 11120 turbine oil GB/T 12145 generating unit and steam power equipment vapor quality GB/T 14383 forged socket welding and threaded fittings GB/T 15169 steel welders - Fusion welding skills assessment GB/T 16908 Mechanical vibration Shaft and fitment key balance guidelines (GB/T 16908-1997, idt ISO 8821. 1989) GB/T 17241 (all parts) cast iron pipe flanges (ISO 7005-2)