
**Industrial furnaces and associated
processing equipment — Vocabulary**

Fours industriels et équipements thermiques associés — Vocabulaire

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 244, *Industrial furnaces and associated processing equipment*.

Introduction

The purpose of this vocabulary is:

- to provide pertinent terms having a specific meaning in industrial furnaces and associated processing equipment technology (hereinafter "TPE"),
- to include common dictionary or engineering terms only when they are a generic root for a series of terms specific to TPE technology,
- to refer synonymous terms to the preferred term,
- to list deprecated terms, but to define and clearly mark these terms as such and to indicate the preferred term,
- to provide terms and definitions applied to International Standards developed by ISO/TC 244.

The following conventions are used:

- (deprecated) indicates that a term should no longer be used;
- in the fr and de texts;
 - "m" indicates words of masculine gender,
 - "f" indicates words of feminine gender; and "n" indicates words of neutral gender;
- "Adj" or "adj" indicates an adjective.

Terms and definitions in English are authorised by ISO/TC 244.

For each language covered in this International Standard, an analysis of terminological usage in the subject field is required by the member of ISO/TC 244 and/or the national standardisation body.

If American and/or Australian terms differ from the original English terms, they are added separately.

Industrial furnaces and associated processing equipment — Vocabulary

1 Scope

This International Standard establishes the vocabulary for all industrial furnaces and associated processing equipment (TPE).

This International Standard provides terms and definitions which are intended to be applied to the following documents:

- ISO 13577 (all parts);
- ISO 13579 (all parts).

NOTE In addition to terms used in English and French (two of the three official ISO languages), this document gives the equivalent terms in Chinese, German, Japanese, Korean, Polish and Spanish; these are published under the responsibilities of the member bodies for China (SAC), Germany (DIN), Japan (JISC), Korea (KATS), Poland (PKN) and for Spain (AENOR), respectively, and are given for information only. Only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

2 Terms and definitions

The classifications below are given as typical examples only and should not be considered as limitations to this International Standard where all TPE is covered.

2.1 air pressure detector device for sensing the existence of air pressure	
fr	détecteur de pression d'air dispositif destiné à détecter la présence d'une pression d'air
es	detector de presión de aire
de	Luftdruckwächter, <i>m</i> Einrichtung zur Feststellung ausreichenden Luftdrucks
ja	空気圧検出装置 空気圧の存在を検出する装置
ko	공기압력 검출장치 공기 압력의 존재를 검출하는 장치
pl	czujnik ciśnienia powietrza urządzenie do wykrywania obecności ciśnienia powietrza

zh	气压检测器
NOTE	This item is intended to be applied to ISO 13577-2.

2.2 air/fuel ratio ratio between the mass flow of combustion air and the mass flow of the fuel	
fr	rapport air/combustible rapport du débit massique d'air de combustion au débit massique de combustible
es	relación aire-combustible
de	Luft-Brennstoff-Verhältnis, <i>n</i> Verhältnis der Massenströme von Verbrennungsluft und Brennstoff
ja	空燃比 燃焼空気の質量流量と燃料の質量流量の比率
ko	공연비 연소용 공기의 질량 유량과 연료의 질량유량의 비율
pl	stosunek powietrze/paliwo stosunek masy przepływającego powietrza do spalania i masy przepływającego paliwa
zh	空燃比
NOTE	This item is intended to be applied to ISO 13577-2.

2.3 analyser device used to determine the physical properties and/or characteristics of a gas	
fr	analyseur (pour analyse de gaz) appareil utilisé pour déterminer les propriétés physiques et/ou les caractéristiques d'un gaz
es	analizador de gases
de	Analysator, <i>m</i> Gerät zur Ermittlung physikalischer Eigenschaften und/oder Merkmale eines Gases
ja	ガス分析機器 気体の物理的組成及び/又は性質を分析する機器
ko	가스분석기
pl	analizator urządzenie stosowane do określenia własności fizycznych i/lub charakterystyk gazu

zh	分析仪
NOTE	This item is intended to be applied to ISO 13579-1.

2.4**atomization agent**

supplemental gas (air) or steam that is used for atomization of liquid fuel

fr	agent de pulvérisation gaz (air) ou vapeur additionnel utilisé pour la pulvérisation d'un combustible liquide
es	agente de atomización
de	Zerstäubungsmedium, <i>n</i> zur Zerstäubung flüssigen Brennstoffs eingesetzte(s/r) Zusatzgas (Luft) oder Zusatzdampf
ja	霧化剤 液体燃料を霧化させるための付加的なガス(空気)又は蒸気
ko	무화제
pl	czynnik rozpylający uzupełniający gaz (powietrze) lub para wodna stosowane do rozpylania ciekłego paliwa
zh	雾化剂
NOTE	This item is intended to be applied to ISO 13579-1.

ISO 13574:2015

<https://standards.iteh.ai/catalog/standards/iso/300ee0b-3158-468f-88f8-370320d1db1c/iso-13574-2015>**2.5****automatic burner control system**

combustion safeguard US

protective system (2.138) comprised of at least a programming unit and all the elements of a flame detector device

Note 1 to entry: The various functions of an automatic burner control system can be in one or more housings.

fr	système automatique de commande de brûleur combustion safeguard US <i>système de protection</i> (2.138) comprenant au moins une unité de programmation ainsi que l'ensemble des éléments d'un dispositif de détection de flamme Note 1 à l'article: Les différentes fonctions d'un système automatique de commande de brûleur peuvent être situées dans un ou plusieurs boîtier(s).
de	Feuerungsautomat, <i>m</i> <i>Schutzsystem</i> (2.138), das mindestens aus einem Programmiergerät und allen Elementen eines Flammenwächters besteht Anmerkung 1 zum Begriff: Die verschiedenen Funktionsteile eines Feuerungsautomaten können in einem oder mehreren Gehäusen angeordnet sein.

es	sistema automático de control del quemador
ja	自動バーナ制御装置 少なくともプログラミングユニットと火炎検出装置の全要素から構成されるプロテクティブシステムシステム(2.138) NOTE自動バーナ制御装置の様々な機能は単一又はそれ以上の機械要素に含まれる
ko	자동버너제어장치 프로그래밍 유닛과 화염 검출 장치의 모든 요소로부터 구성 된 보호 시스템. 자동 버너 제어 장치의 다양한 기능은 단일 또는 그 이상의 기계 요소에 포함 된다.
pl	automatyczny system sterowania palnika <i>system zabezpieczający</i> (2.138) składający się co najmniej z części programującej i pozostałych elementów urządzenia wykrywających płomień Uwaga 1 do hasła: Różne funkcje automatycznego systemu sterowania palnika mogą się znajdować w jednej lub w kilku obudowach.
zh	烧嘴自控系统
NOTE	This item is intended to be applied to ISO 13577-2.

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2.6 auxiliary equipment equipment directly linked to furnace, such as an internal driving assembly, hydraulic pump and pneumatic compressor excluding units such as roller conveyer that is connected to anteroposterior process to convey raw materials and products https://standards.iteh.ai/catalog/standards/iso/300ee0b-3158-468f-88f8-370320d1db1c/iso-13574-2015	
fr	équipement auxiliaire équipement lié directement au four tel un ensemble interne d'entraînement, une pompe hydraulique ou un compresseur pneumatique excluant des systèmes comme des convoyeurs à rouleaux connectés au processus antéro-postérieur de convoyage de matières premières et produits
de	Hilfseinrichtung, f Einrichtung, die direkt mit dem Ofen verbunden ist, wie interne Antriebsbaugruppe, Hydraulikpumpe und Luftkompressor. Ausgenommen sind Komponenten (z.B. Rollenförderer), die mit einem vor- oder nachgelagertem Prozess zum Transport von Rohmaterialien und Produkten verbunden sind
es	equipo auxiliar
ja	付帯機器 炉に直結した付帯機器(例えば、炉内の駆動装置、専用の油圧ポンプ、エアコンプレッサー等)ただし、材料を搬送するためのローラコンベアのように前後工程設備と連結した装置を除く

ko	부속기기 로에 직결된 부속기기 (예를들면 로내구동장치, 전용유압펌프, 공기압축기등 다만 원자재 이송을 위한 롤러컨베어 등과 같은 전후공정과 연결된 장치는 제외)
pl	wyposażenie pomocnicze wyposażenie bezpośrednio związane z piecem, jak np. wewnętrzny napęd podajnika, pompa hydrauliczna i kompresor pneumatyczny, wyłączając części takie jak przenośnik wałkowy, który jest związany z wstępnym i końcowym podawaniem surowców lub wyrobów
zh	辅助设备
NOTE	This item is intended to be applied to ISO 13579-1.

2.7**auxiliary flue**

flue used for any exhaust gas which are not exhausted through the regenerative media in regenerative burner system

fr	conduit auxiliaire conduit utilisé pour l'évacuation des gaz qui ne sont pas évacués à travers les régénérateurs dans un système de brûleur régénératif
de	Hilfsabzug, m Abzug für jegliches Abgas, das nicht über die regenerativen Medien im Rekuperatorbrennersystem abgezogen wird
es	conducto auxiliar de gases de combustión
ja	補助煙道 リジェネレイティブバーナ(蓄熱式バーナ)システムにおいて、蓄熱媒体を経由せずに排出される排ガスのための煙道
ko	보조연도
pl	paliwo pomocnicze przydatne paliwo ze spalin, które nie zostało wykorzystane przez nośniki regeneracyjne w systemie regeneracji palnika
zh	辅助烟道
NOTE	This item is intended to be applied to ISO 13579-1.

2.8 blowout device directed flow release device combined with a check valve, rupture disc, electrical switch and a flame arresting screen	
fr	dispositif de décharge anti-explosion dispositif d'échappement direct associé à un clapet anti-retour, un disque de rupture, un commutateur électrique et un écran d'arrêt de flamme
de	Ausblasvorrichtung, f Vorrichtung zur geregelten Freisetzung eines Durchflusses, die mit einem Rückschlagklappenventil, einer Berstscheibe, einem elektrischen Schalter und einer flammendurchschlagsicheren Abschirmung verbunden ist
es	
ja	防爆装置 逆止弁、破裂板、電気的スイッチ及び逆火防止スクリーンを組合せた流体放散機器
ko	
pl	urządzenie przedmuchowe urządzenie zwalniające ukierunkowany przepływ połączone z zaworem zwrotnym, przeponą bezpieczeństwa, przełącznikiem elektrycznym oraz osłoną blokowania płomienia
zh	防喷装置
NOTE This item is intended to be applied to ISO 13577-2.	

2.9 brazing metal joining process wherein coalescence is produced by using of a nonferrous filler metal having a melting point above 427 °C but lower than that of the base metal being joined Note 1 to entry: The filler metal is distributed between closely fitted surfaces on the joint by capillary action. Note 2 to entry: The definition is generally applied in joining in metallurgical TPE.	
fr	brasage procédé d'assemblage métallique où la fusion est obtenue en utilisant un métal d'apport non ferreux dont le point de fusion est supérieur à 427 °C, mais inférieur à celui du métal de base à assembler Note 1 à l'article: Le métal d'apport est diffusé par capillarité sur la jointure de surfaces étroitement ajustées. Note 2 à l'article: La définition s'applique généralement en métallurgie.

de	Hartlöten, <i>n</i> Füge-(Verbindungs)verfahren für Metalle mittels Einsatz eines Nichteisen-Zusatzwerkstoffs, dessen Schmelzpunkt über 427 °C, aber unterhalb des Schmelzpunkts der zu verbindenden Metalle liegt Anmerkung 1 zum Begriff: Der Zusatzwerkstoff wird durch Kapillarwirkung zwischen den eng beieinander liegenden Oberflächen an der Fugestelle verteilt. Anmerkung 2 zum Begriff: Die Definition wird allgemein im Hüttenwesen angewendet.
es	
ja	ろう付け (冶金) 金属を、融点が427°C以上で且つ結合する母材のものより低い非鉄金属の埋め金を用いることによって結合させるプロセス
ko	브레이징 (야금)
pl	lutowanie twarde proces łączenia metalu, w którym połączenie jest wytwarzane przez zastosowanie nieżelaznego spoiwa metalowego, posiadającego temperaturę topnienia powyżej 427 °C, ale niższą niż podstawowego metalu łączonego Uwaga 1 do hasła: Materiał spoiwa jest rozprowadzany między dokładnie dopasowane powierzchnie łączone dzięki działaniu zjawisk kapilarnych. Uwaga 2 do hasła: Definicja jest powszechnie stosowana w połączeniach metalurgicznych TPE.
zh	硬钎焊
NOTE	This item is intended to be applied to ISO 13577-1. [SOURCE: ASME 31.3]

2.10**burner**

device(s) for the introduction of fuel, air, oxygen, or oxygen-enriched air at the required velocities, mixing, and concentrations to maintain ignition and combustion of fuel

fr	brûleur dispositif(s) pour l'introduction de combustible, d'air, d'oxygène, ou d'air enrichi en oxygène dans une chambre de combustion à des vitesses, des mélanges, et des concentrations requises pour maintenir l'allumage et la combustion du combustible
de	Brenner, <i>m</i> Einrichtung(en) für die Einleitung von Brennstoff, Luft, Sauerstoff oder sauerstoffangereicherter Luft in eine Brennkammer mit den erforderlichen Geschwindigkeiten und in den für die Sicherstellung der Zündung und stabilen Verbrennung des Brennstoffs erforderlichen Mischungen und Konzentrationen
es	quemador

ja	燃焼器(バーナ) 燃料の点火及び燃焼を維持する目的で、燃料、空気、酸素又は酸素富加空気を一定の速度、混合状態及び密度で燃焼室に導入させる機器
ko	버너
pl	palnik urządzenie (urządzenia) do wprowadzania paliwa, powietrza, tlenu, lub powietrza wzbogaconego w tlen do komory spalania przy wymaganej szybkości, mieszaniu i zawartościach pozwalających utrzymać zapłon i spalanie paliwa
zh	烧嘴
NOTE	This item is intended to be applied to ISO 13577-2.

2.11 burner input rate highest quantity of fuel energy used by a burner in unit time corresponding to the volumetric or mass flow rates, and the calorific value used being the net calorific value	
fr	débit calorifique du brûleur énergie thermique maximale apportée au brûleur par unité de temps par le combustible dont le débit massique ou volumique se réfère au pouvoir calorifique inférieur
de	Energieverbrauch durch den Brenner <i>m</i> maximale Menge an Brennstoffenergie, die von einem Brenner pro Zeiteinheit entsprechend dem Volumen- oder Massendurchsatz verwendet wird; als Heizwert wird der Netto-Heizwert eingesetzt
es	capacidad máxima de liberación térmica
ja	バーナの最大燃焼量 体積、又は質量流量、並びに使用する燃料の低位発熱量に相当する単位時間当たりのバーナの最大燃焼量
ko	버너의 최대 연소량 단위시간당 버너의 최대연소량
pl	Obciążenie cieplne palnika Najwyższa wartość energii paliwa wykorzystywana przez palnik w jednostce czasu, właściwa dla objętościowego lub masowego natężenia strumienia przepływu, stosowana wartość opałowa jest wartością opałową dolną
zh	烧嘴最大燃焼量
NOTE	This item is intended to be applied to ISO 13577-2.