



# 国际标准的编写

国际标准技术组织注册专家培训班

2023.06 南宁

*Making lives easier, safer and better.*

## 单位简介

### 核心竞争力：唯一、第一、专业、权威

- 国家科技图书文献中心 (NSTL) 冶金分中心
- 中国工程科技知识中心 (CKCEST) 冶金分中心
- 冶金信息网(Metalinfo.cn)
- 国家一级科技查新咨询中心
- 中国金属学会情报分会
- 中国知识产权发展联盟冶金专委会
- 工信部 产业技术基础公共服务平台、新材料生产应用示范平台（海工）、新材料资源共享平台

- 行业权威科技媒体
- 报刊及电子出版物全媒体
- 宣传推广和技术交流
- 行业会议与活动

#### 冶金信息 研究所

#### 冶金标准 化研究所

- 标准化技术归口管理
- 国内国际标准化研究
- 国内国际标准制修订
- 标准信息与咨询服务
- 标准宣贯与培训

#### 世界金属 导报社

#### 综合 咨询部

- 分析产业发展方向，制定发展战略，提供产业政策、结构调整、市场分析、绿色低碳、智能制造、转型升级等综合规划咨询服务
- 开展创新体系、专利与知识产权体系、标准体系、情报系统以及成本对标、竞争力分析、产业链建设等专项咨询服务



### 国内标准化技术组织秘书处

- 3个标准化技术委员会、21个标准化分技术委员会
- 技术委员会下属11个标准化工作组



### 国际标准化技术组织秘书处

- 3个标准化技术委员会、2个标准化分技术委员会
- 27个国际标准化技术组织（技术委员会、分技术委员会）国内对口管理

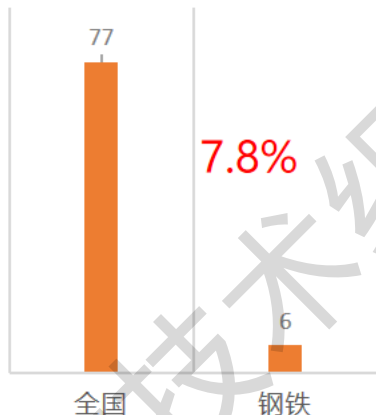


### 官方认可的评估机构

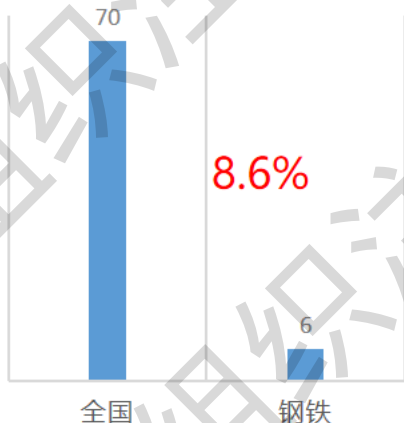
企业标准“领跑者”评估机构、工业节能与绿色发展评价中心

## 行业工作

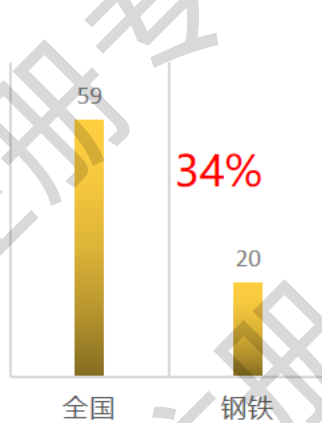
2022年底承担ISO秘书处  
数量



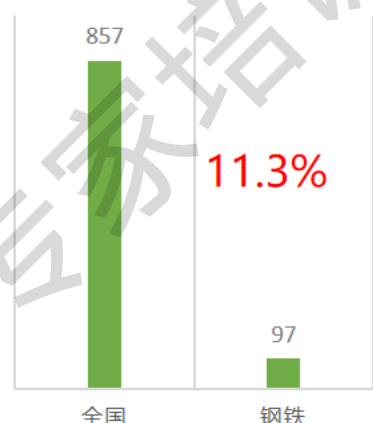
2022年底承担ISO  
主席数量



2022年底获得ISO卓越贡献奖  
人数



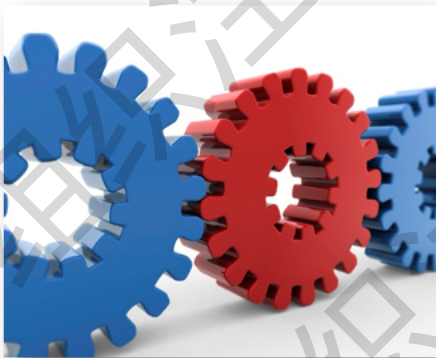
2022年底累计牵头发布的  
ISO标准



- 钢铁国际标准化工作成绩突出，成效显著。
- 截至2022年底，牵头发布的国际标准数量和获得ISO卓越贡献奖数量位居**全国首位**，承担秘书处和主席职位位居**全国前三**。
- 未来在助力钢铁行业头部企业走出去、积极承担更多新的技术组织机构、提出更多热点领域提案等方面**仍有提升空间**。



# 基础知识



# 三大国际标准化组织



## 国际标准化组织

全球最大的非政府标准化专门机构，负责当今**世界上绝大部分**领域的标准化活动，成员为各国国家标准机构。



标准数

24610

成员数

167

TC/SC数

759



## 国际电工委员会

世界上成立最早的国际性电工标准化机构，负责有关**电气工程**和**电子工程**领域的国际标准化工作，成员为各国国家标准机构。



标准数

11448

成员数

174

TC/SC数

214



## 国际电信联盟

联合国的一个重要专门机构，主管**信息通信技术**事务，成员包括世界各国和各大公司、大学、国际组织以及区域性组织。



标准数

14165  
+

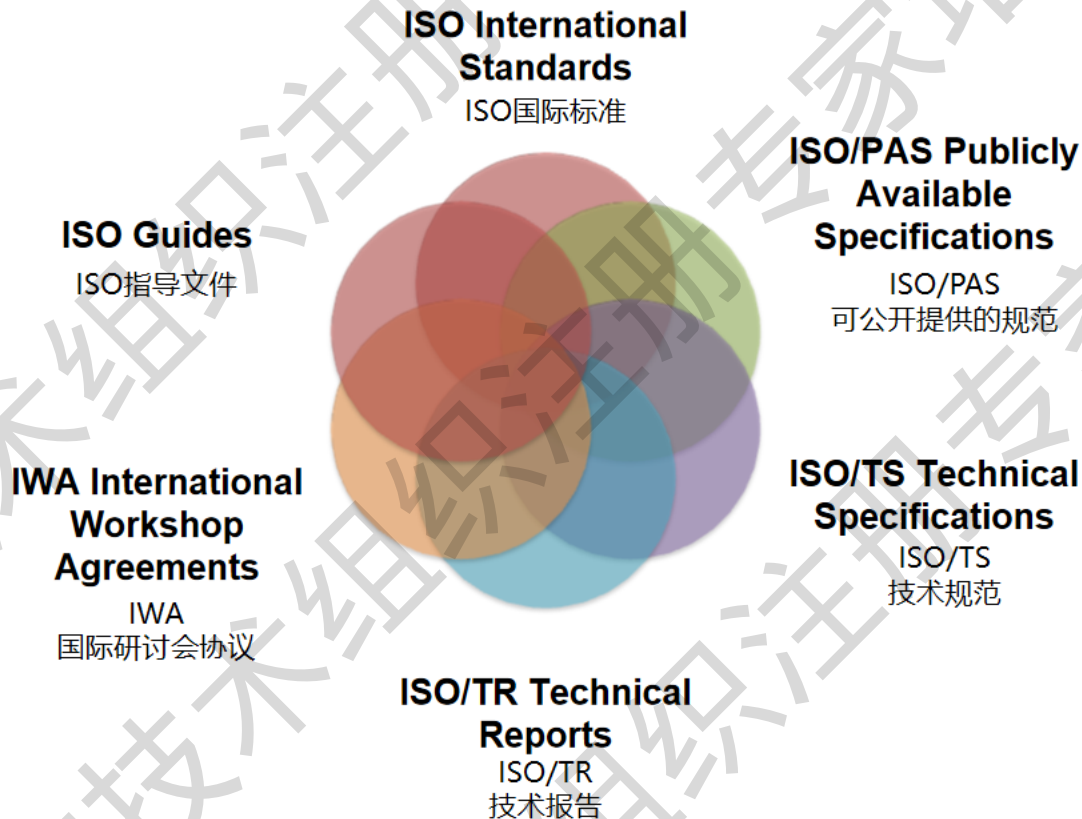
成员数

193

SG数

19

# 国际标准主要类型

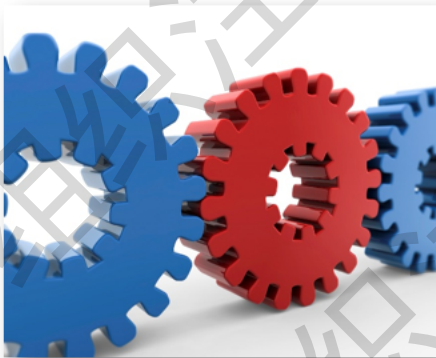


## 基础依据

- ISO/IEC Directives, Part 1, Procedures for the technical work
- ISO/IEC Directives, Part 2, Principles and rules for the structure and drafting of ISO and IEC documents



## 国内、国际程序及案例



# 国内程序

## 国家质量监督 国家标准

公

2015年第

### 质检总局 国家标准委关 化组织 (ISO) 和国际 国际标准化活动管

《参加国际标准化组织 (ISO) 国际  
标准化活动管理办法》已经 2014 年 12  
总局局务会议审议通过, 现予发布,  
特此公告。



### 参加国际标准化活动管理办法 补充条例 (试行)

为规范我院参加国际标准化活动的管理, 提高  
国际标准化活动的能力和水平, 结合国家标准化管  
《参加国际标准化组织 (ISO) 和国际电工委员会 (IEC)  
国际标准化活动管理办法》(以下简称“管理办法”),  
补充条例。

本补充条例适用于我院参与国际标准化技术  
员, 我院承担 ISO TC/SC 秘书处责任人见附录 1,  
TC/SC 责任人见附录 2。

现就以下几方面对管理办法进行补充要求:

#### (一) 上报总结

##### 1. 年度总结的上报

具体承担 ISO 和 IEC 技术机构的秘书处工作以  
术对口工作的人员, 应于每年 12 月 20 日前向所里  
度参加国际标准化活动工作, 包括工作报告和《参  
IEC 国际标准化活动国内技术对口工作情况报告表》  
法附件 3), 承担秘书处工作的应同时提交《我国承  
IEC 技术机构国际标准化工作情况报告表》(管理  
4)。

##### 2. 参会总结

## 国际标准化工作平台 工作手册

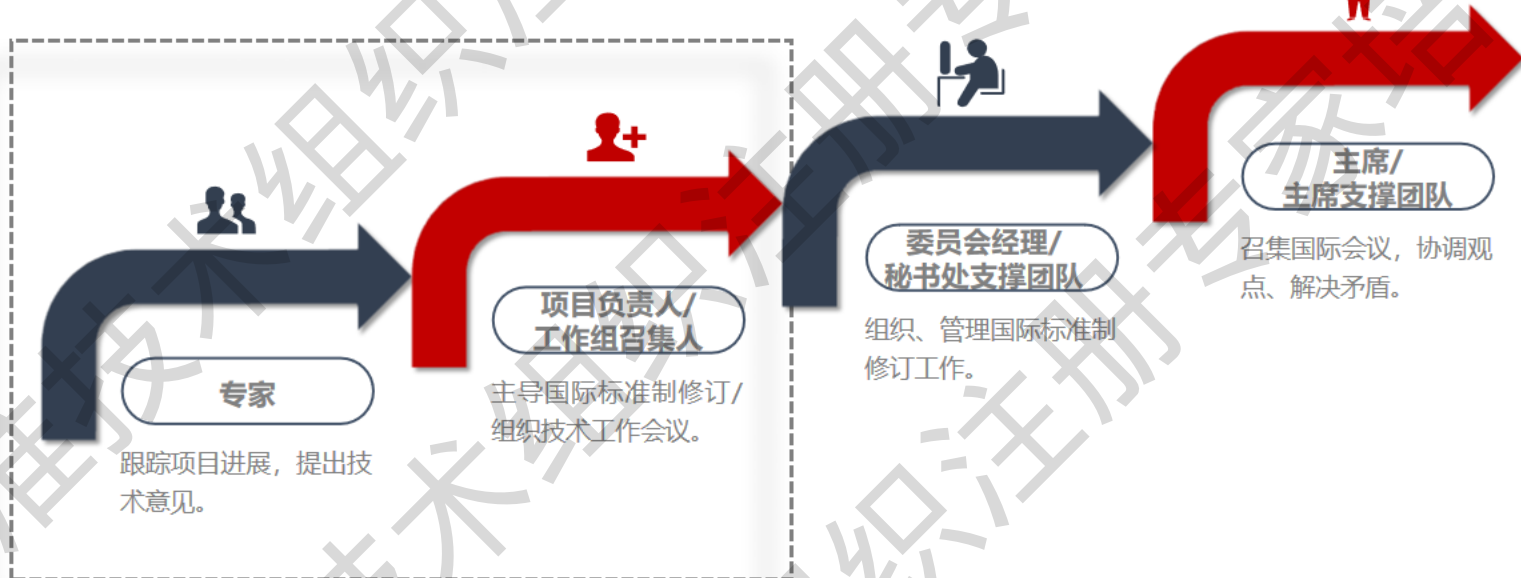
标准创新管理司 ISO 处  
2019 年 3 月 6 日



# 参与模式

## 参与国际标准化活动

根据参与程度和分工不同，参与分为以下几个层面



# 项目的提出

## 提出

与对口管理单位联系沟通项目意向，并提出标准立项背景、草案

01

### 国际标准化服务模式

- ✓ 国际、国外相关标准比对
- ✓ 政策、行业信息收集
- ✓ 项目可行性研究报告

## 论证

组织专家论证项目可行性

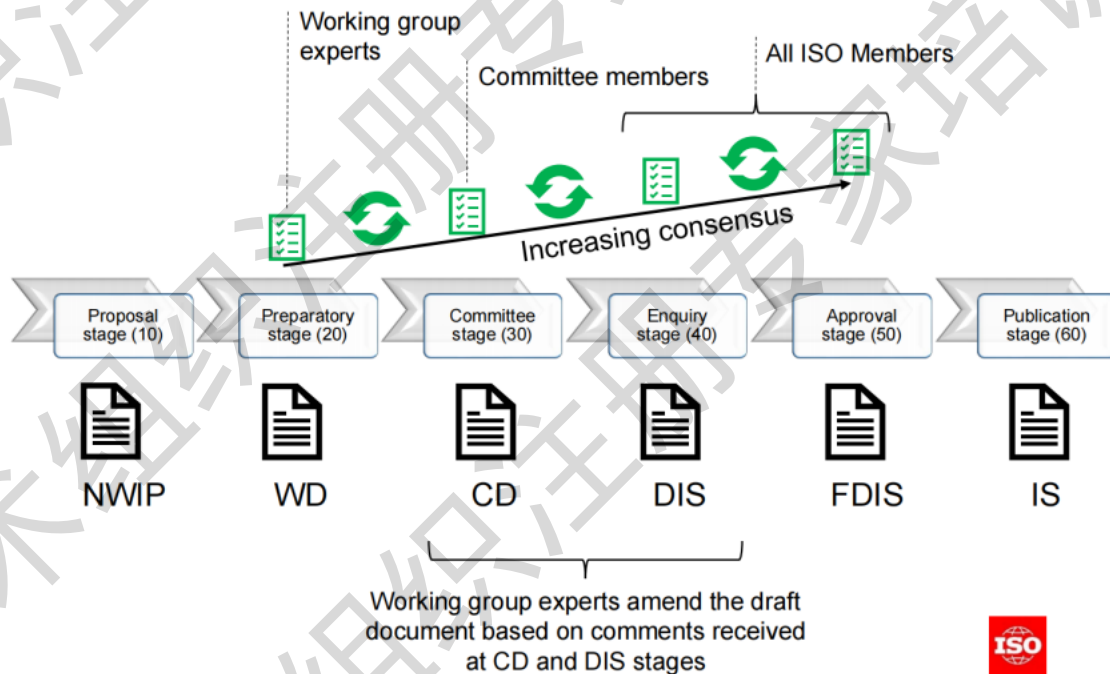
02

03

## 备案

- 项目背景介绍
- Form4 中英文版本
- 标准草案中英文版本
- 国际标准新工作项目提案文件审核表

# Standard development rules



# 项目案例



**Key areas**  
**重点关注**

Areas concerned by  
national policy  
国家政策重点关注领域



**Engineering and  
equipment supporting**  
**工程、装备配套**

Major projects and  
supporting equipment  
重大工程、装备配套



**Method extension**  
**方法延伸**

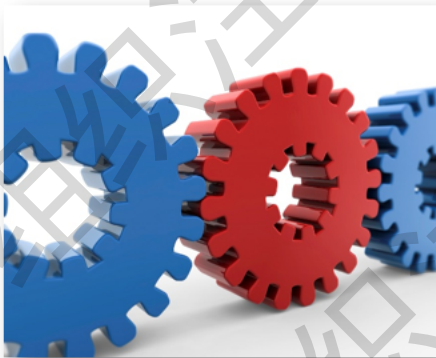
Advanced product  
matching method  
先进产品配套方法



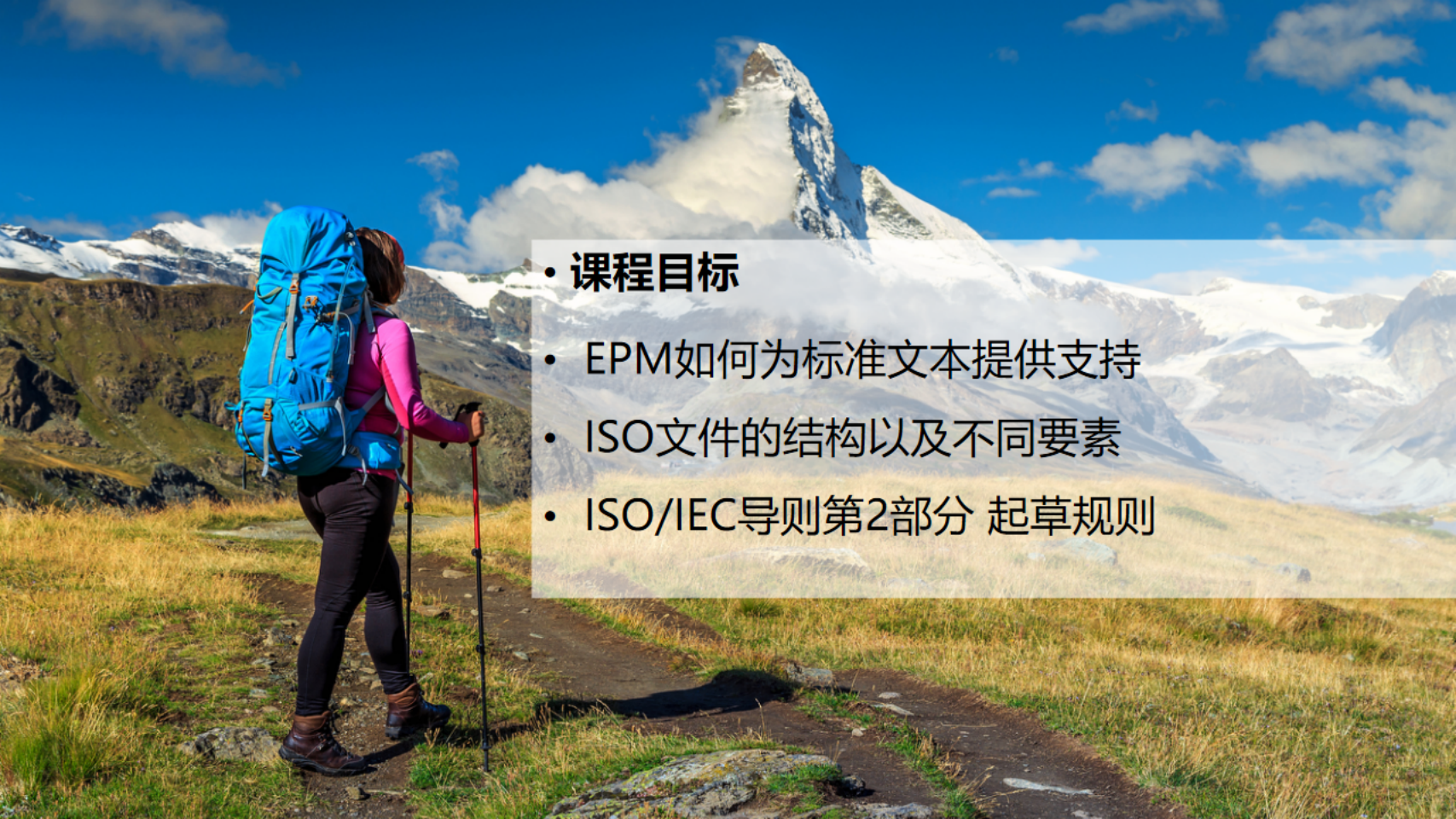
**Application extension**  
**应用延伸**

Marine engineering,  
electricity, packaging...  
海工、电力、包装。。。

# 国际标准起草及案例







## • 课程目标

- EPM如何为标准文本提供支持
- ISO文件的结构以及不同要素
- ISO/IEC导则第2部分 起草规则





## 概述

- EPM的作用
- ISO 语言  
(表述形式&简明的语言)
- 标准的结构
- 标准的要素/ISO起草规则



## 概述

- EPM的作用
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# EPM的作用

- 标准起草或编辑相关问题，与ISO/CS的主要联络点
- 管理各委员会的工作，确保他们的文件保持高质量，按时交付并符合ISO/IEC导则第2部分的要求。



# EPM的作用

- 默认情况下，在DIS和FDIS/PRF阶段**编辑**你的文件
- 在FDIS/PRF和出版前2周的审核期**接受/拒绝**意见
- 根据需求在早期阶段**评估**文件
- 对委员会进行标准起草的**培训**



# EPM的详细联系方式

TC网页

## ISO/TC 68

### Financial services

#### ABOUT

**SECRETARIAT:** [ANSI](#)

Committee Manager: [Ms Janet Busch](#)

Chairperson (until end 2021): [Mr Jim Northey](#)

ISO Technical Programme Manager [TPM]: [Mr Stefan Marinkovic](#)

ISO Editorial Programme Manager [EPM]: [Mr David Reid](#)

Creation date: 1972

ISO项目

#### Responsibilities

PROJECT LEADER	
<a href="#">HERNANDEZ GALAN Jesus M<sup>a</sup></a>	
SECRETARY	
<a href="#">Ortiz de Zarate Natalia Mrs</a>	
TWINNED SECRETARY	
<a href="#">Makhlouf Chokri Mr.</a>	
SECRETARIAT	
<a href="#">UNE</a>	
TWINNED SECRETARIAT	
<a href="#">INNORPI</a>	
CONVENOR	
<a href="#">Diotallevi Marina Ms</a>	
ISO TECHNICAL PROGRAMME MANAGER (TPM)	
<a href="#">Marinkovic Stefan Mr</a>	
ISO EDITORIAL PROGRAMME MANAGER (EPM)	
<a href="#">Reid David Mr</a>	



# 概述

- EPM的作用
- ISO 语言  
(表述形式&简明的语言)
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- 标准的要素/ISO起草规则



# 表述形式

以下是ISO文件中使用的表述形式：

- 要求--shall, shall not
- 建议--should, should not
- 许可--may, may not
- 可能性和能力--can, cannot

# 表述形式

- 要清楚什么是**要求**，什么是**建议**或其他类型的表述。
- 不要使用其他表述形式，如在表达要求时使用 "must "或 "may not"。
- ISO/IEC导则，第2部分，表3

# 简明的语言

‘It is a message, written with the **reader** in mind and with the right **tone of voice**, that is **clear** and **concise**.’

简明英语运动，如何用普通英语写作。

# 简明的语言

## 优势：

- 使阅读和书写**更快**，**更容易**
- 避免**误解**
- 减少起草过程中的**讨论**、**时间**和**费用**
- **有效地**传达你的信息

# 简明的语言小提示

- 以读者为中心进行写作
- 言简意赅：短句子，简单的词
- 一句话一个观点
- 删去不必要的词语
- 使用列表
- 主动语态（主语-动词-宾语）
- 标点符号



## 概述

- EPM的作用
- ISO 语言  
(表述形式&简明的语言)
- 标准的结构
- 标准的要素/ISO起草规则



# 标题要素

简单的  
模板

## Cereals and pulses — Specification and test methods — Part 1: Rice

Maximum of three elements:

- 1 Introductory (引导元素)
- 2 Main (主体元素)
- 3 Complementary (补充元素)

1

2

3

Cereals and pulses — Specification and test methods — Part 1: Rice

# 标题示例

ISO 26000, *Guidance on social responsibility*

ISO 9001, *Quality management systems – Requirements*

ISO 10218-2, *Robots and robotic devices – Safety requirements for industrial robots – Part 2: Robot systems and integration*

# 标题规则

- 清晰而简明
- 反映出范围
- 与相关文件的标题相一致

# 目录

简单的  
模板

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6.1 Moisture content	
6.2 Waxy rice content	
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6.5.2 Precision	
7 Test report	6
8 Packaging	6
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自动生成到三级

# 前言

简单的  
模板

## 通用文本

### 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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

版权和  
专利信息

# 前言

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## 具体文本

This document was prepared by Technical Committee [or Project Committee] ISO/TC [or ISO/PC] ###, [name of committee], Subcommittee SC ##, [name of subcommittee].

This second/third/... edition cancels and replaces the first/second/... edition (ISO #####:####), which has been technically revised.

The main changes compared to the previous edition are as follows:

— xxx xxxxxxxxx xxx xxxxx

A list of all parts in the ISO ##### series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



# 前言

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 4, *Cereals and pulses*.

This second edition cancels and replaces the first edition (ISO 17301-1:2009), which has been technically revised.

The main changes compared to the previous edition are:

- updated normative references;
- deletion of 4.3.

A list of all parts in the ISO 17301 series can be found on the ISO website.

## 主要变化列表

## 小幅修订

This third edition cancels and replaces the second edition (ISO 5506:1988), of which it constitutes a **minor revision**. The dated references have been replaced with undated references and the reference ISO 5505:1986 has been corrected to ISO 5500.

# 引言

背景资料

## Introduction

This document was developed in response to worldwide demand for minimum specifications for rice traded internationally, since most commercial bulks of grain, which have not been screened or aspirated, contain a proportion of other grains, weed seeds, chaff, straw, stones, sand, etc. The vegetable materials can have physical and biological properties which differ from those of the main constituent and can therefore affect the storage behaviour.

# 引言

## 专利信息

The International Organization for Standardization (ISO) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning computer vision technologies for the detection of drowning accidents in swimming pools, given in [3.1](#).

ISO takes no position concerning the evidence, validity and scope of these patent rights.

The holder of these patent rights has assured ISO that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of these patent rights is registered with ISO. Information may be obtained from:

POSÉIDON – MG INTERNATIONAL – MAYTRONICS FRANCE

3, rue Nationale

92100 – Boulogne Billancourt

France

# 引言

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- 可选
- 背景资料或注解
- **没有要求** ("shall") 。
- 简洁；不要重复范围
- 专利权

# 固定结构

简单的  
模板

所有文件的主体都以下列固定结构开始  
以下列**固定结构**开始：

- 1 范围
- 2 规范性引用文件
- 3 术语和定义

# 范围

## 主题

'Specifies', 'establishes',  
'gives guidelines for',  
'defines terms'

## 1 Scope

This document specifies minimum requirements and test methods for rice (*Oryza sativa* L.).

It is applicable to husked rice, husked parboiled rice, milled rice and milled parboiled rice, suitable for human consumption, directly or after reconditioning.

It is not applicable to cooked rice products.

## 适用性



# 范围

- 规范性要素，起到解释文件的作用
- 简明
- 文件的适用性
- 只使用事实陈述
- **没有要求、建议或许可**

# 引言与范围的区别？

	内容	表达形式	位置	ISO规则
引言	提供有关标准技术内容的 具体信息，以及编写文件 的原因	没有要求	正文前面 的内容	资料性
范围	定义了文件的主题	没有要求，建议 或权限	第1章	规范性

# 规范性引用文件

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## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 712, *Cereals and cereal products — Determination of moisture content — Reference method*

ISO 6646, *Rice — Determination of the potential milling yield from paddy and from husked rice*

ISO 8351-1:1994, *Packaging — Method of specification for sacks — Part 1: Paper sacks*

ISO 8351-2, *Packaging — Method of specification for sacks — Part 2: Sacks made from thermoplastic flexible film*

ISO 16634:—<sup>1</sup>, *Cereals, pulses, milled cereal products, oilseeds and animal feeding stuffs — Determination of the total nitrogen content by combustion according to the Dumas principle and calculation of the crude protein content*

ISO 20483:2013, *Cereals and pulses — Determination of the nitrogen content and calculation of the crude protein content — Kjeldahl method*

ISO 24333:2009, *Cereals and cereal products — Sampling*

它们在文中是如何被引用的？

4.2.1 The mass fraction of moisture, determined in accordance with ISO 712, using an oven complying with the requirements of IEC 61010-2, shall not be greater than 15 %<sup>2</sup>.

If bags are used, they shall comply with the requirements of ISO 8351-1:1994, Clause 9, or ISO 8351-2, as appropriate.

# 规范性引用文件

‘文本中提到的文件，其部分或全部内容构成标准的要求。’

➤ 'shall':

Sampling shall be carried out in accordance with ISO 24333:2009, Clause 5.

➤ 或同等的规范性语言:

Determine the husked rice yield in accordance with ISO 6646.

# 规范性参考资料

- 只有文本中**规范性**引用的文件
- 资料性引用文件在“参考文献” (Bibliography) 中列出
- 通常是ISO和IEC标准  
(见ISO/IEC导则, 第2部分, 10.2)
- 只有**公开可用的**文件
- 'There are no normative references in this document.'

# 有日期/无日期的引用

If bags are used, they shall comply with the requirements of ISO 8351-1:1994, Clause 9, or ISO 8351-2, as appropriate.

- **ISO 8351-2** - 非特定的未注明日期的完整文件的引用
- **ISO 8351-1:1994** - 参考特定版本（1994）中的特定内容（第9条）。
- 该规则同时适用于规范性（第2条）和资料性（参考文献）的引用



# 术语和定义

- 如果可能的话，根据概念的层次结构进行分类，而不是按字母顺序进行分类
- 对理解文件所需的术语进行定义（即在文件中使用的术语，而不是不言自明的或常见的字典中的术语）

词汇和术语的最佳做法

词汇和术语的最佳做法，可在以下网站获得：

<https://www.iso.org/drafting-standards.html>

# 术语和定义--介绍性文本

简单的  
模板

**如果有术语和定义，请选择以下表述之一：**

For the purposes of this document,

...the following terms and definitions apply

...the terms and definitions given in [e.g.] ISO 17301-1 apply

...the terms and definitions given in [e.g.] ISO 17301-1 and the following apply

**如果没有术语和定义，请使用以下表述：**

No terms and definitions are given in this document.

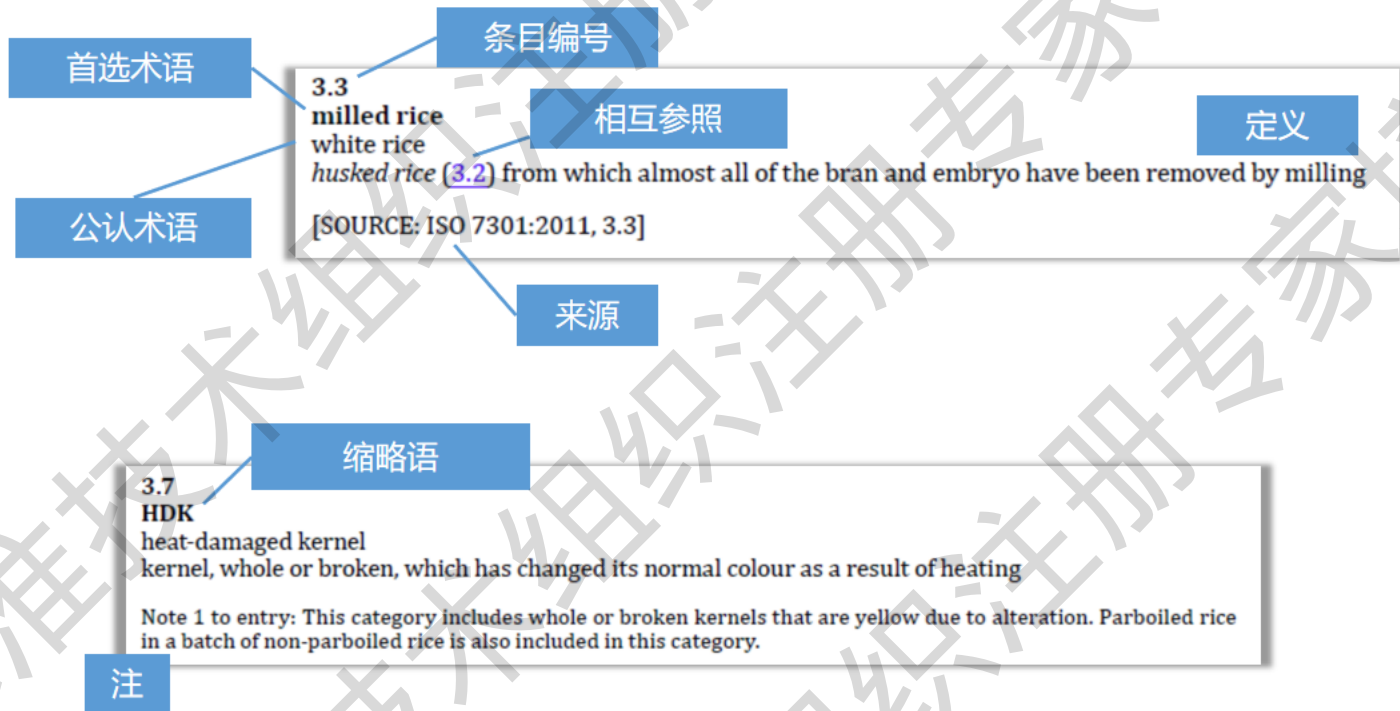
**其次是：**

ISO和IEC在以下地址维护用于标准化的术语数据库：

- ISO在线浏览平台：可在 <http://www.iso.org/obp>
- IEC Electropedia：可在<http://www.electropedia.org/>

# 术语和定义--条目

简单的  
模板



# 术语和定义

## 3.15

gelatinization time

$t_{90}$

time necessary for 90 % of the kernels to pass from their natural state to the *gel state* (3.14)

[SOURCE: ISO 14864:1998, 3.3]

## 6.4 Gelatinization time

Determine the gelatinization time,  $t_{90}$ , for rice kernels during cooking. An example of a typical curve is given in Figure C.1. Three typical stages of gelatinization are shown in Figure C.2.

定义取代了上下文中的术语：

'确定在烹饪过程中，90%的米粒从自然状态转为凝胶状态所需的时间， $t_{90}$ ，为米粒。

# 术语和定义

## EXAMPLE

### 2.1.17

#### die

<extrusion> metal block with a shaped orifice through which plastic material is extruded

### 2.1.18

#### die

<moulding> assembly of parts enclosing the cavity from which the moulding takes its form

如果一个术语有一个以上的含义，请用三角括号（< >）中的域名包括单独的条目，以显示该定义的使用背景。

# 符号

- 如果符号与定义的术语有关，且数量不多，则在第3条中列出

3.15  
gelatinization time

$t_{90}$

time necessary for 90 % of the kernels to pass from their natural state to the *gel state* (3.14)

[SOURCE: ISO 14864:1998, 3.3]

- 如果文件中有许多符号，建议在一个单独的条款中列出这些符号
- 按字母顺序列出
- 先是拉丁语，后是希腊语



# 符号

见ISO 80000和IEC  
80000系列

- $A$  = 面积
- $A_{\min}$  = 最小面积
- $l$  = 长度
- $m$  = 质量
- $n$  = 数量
- $r$  = 可重复性
- $R$  = 可重复性
- $t$  = 时间
- $T$  = 温度
- $v$  = 速度
- $V$  = 体积
- $w$  = 质量分数
- $\rho$  = 密度
- $\rho_{\max}$  = 最大密度

# 数量、单位和符号

- 国际单位制(SI)
- 用斜体表示变量 ( $t$ ,  $m$ ,  $\lambda$ ,  $\rho$ )。
- 小数点用逗号表示
- 三个数字为一组用空格隔开, 例如  
23 452, 345 67

Defect	Maximum permissible mass fraction of defects			
	in husked rice	in milled rice (non-glutinous)	in husked parboiled rice	in milled parboiled rice
Extraneous matter:				
— organic <sup>a</sup>	1.0	0.5	1.0	0.5
— inorganic <sup>b</sup>	0.5	0.5	0.5	0.5
Paddy	2.5	0.3	2.5	0.3
Husked rice, non-parboiled	Not applicable	1.0	1.0	1.0
Milled rice, non-parboiled	1.0	Not applicable	1.0	1.0
Husked rice, parboiled	1.0	1.0	Not applicable	1.0
Milled rice, parboiled	1.0	1.0	1.0	Not applicable
Chips	0.1	0.1	0.1	0.1
HDK	2.0 <sup>c</sup>	2.0	2.0 <sup>c</sup>	2.0
Damaged kernels	4.0	3.0	4.0	3.0
Immature and/or malformed kernels	8.0	2.0	8.0	2.0
Chalky kernels	5.0 <sup>c</sup>	5.0	Not applicable	Not applicable
Red kernels and red-streaked kernels	12.0	12.0	12.0 <sup>c</sup>	12.0
Partly gelatinized kernels	Not applicable	Not applicable	11.0 <sup>c</sup>	11.0
Pecks	Not applicable	Not applicable	4.0	2.0
Waxy rice	1.0 <sup>c</sup>	1.0	1.0 <sup>c</sup>	1.0
Live insects shall not be present. Dead insects shall be included in extraneous matter.				
NOTE 1 This table is based on ISO 7301:2011, Table 1.				
NOTE 2 Some commercial contracts require information in addition to that provided in this table.				
NOTE 3 Only full red husked (cargo) rice is considered in this table.				
<sup>a</sup> Organic extraneous matter includes foreign seeds, husks, bran, parts of straw, etc.				
<sup>b</sup> Inorganic extraneous matter includes stones, sand, dust, etc.				
<sup>c</sup> The maximum permissible mass fraction of defects shall be determined with respect to the mass fraction obtained after milling.				

# 数学公式

简单的  
模板

引导语

公式

对符号的解释

Express the mass fraction of each defect using [Formula \(A.1\)](#):

$$w = \frac{m_D}{m_S}$$

(A.1)

where

$w$  is the mass fraction of grains with a particular defect in the test sample;

$m_D$  is the mass, in grams, of grains with that defect;

$m_S$  is the mass, in grams, of the test sample.

公式编号

# 附录

简单的  
模板

附录在正文中的引用方式决定了它是规范性的还是资料性的。

- '...shall be determined in accordance with the method given in Annex A.  
→ 规范性
- ' See Annex B for an example of a suitable method.'  
→ 资料性

# 附录

4.2.2 The defect tolerance for the categories considered, and determined in accordance with the method given in Annex A, shall not exceed the limits given in Table 1.

## Annex A (normative)

### Determination of defects

#### A.1 Principle

Extraneous matter, broken kernels, damaged kernels and other kinds of rice are separated manually according to the following types: husked rice, milled rice, husked parboiled rice and milled parboiled rice. Each type is then weighed.

#### A.2 Apparatus

The usual laboratory apparatus and, in particular, the following.

A.2.1 Sample divider, consisting of a conical sample divider or multiple-slot sample divider with a distribution system, e.g. "Split-it-right" sample divider, such as that shown in Figure A.1.

A.2.2 Sieve, with round perforations of diameter 1.4 mm.

# 附录

## 6.2 Waxy rice content

Determine the mass fraction of waxy rice. [Annex B](#) gives an example of a suitable method.

### Annex B (informative)

#### Determination of the waxy rice content of parboiled rice

##### B.1 Principle

Waxy rice kernels have a reddish brown colour when stained in an iodine solution, while non-waxy rice kernels show a dark blue colour.

##### B.2 Apparatus

The usual laboratory apparatus and, in particular, the following.

B.2.1 Balance, capable of weighing to the nearest 0,01 g.

B.2.2 Glass beaker, of capacity 250 ml.

B.2.3 Small white colour bowls, or any white colour container of a suitable size.

##### B.4 Sampling

Sampling shall be carried out in accordance with [Clause 5](#).

资料性附录可以  
包含要求--如果  
用户使用该附件,  
它们就适用。

# 参考文献--结构

简单的  
模板

## Bibliography

- [1] ISO 3696, *Water for analytical laboratory use — Specification and test methods*
- [2] ISO 5725-1, *Accuracy (trueness and precision) of measurement methods and results — Part 1: General principles and definitions*
- [3] ISO 5725-2, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method*
- [4] ISO 6322-1, *Storage of cereals and pulses — Part 1: General recommendations for the keeping of cereals*
- [5] ISO 6322-2, *Storage of cereals and pulses — Part 2: Practical recommendations*
- [6] ISO 6322-3, *Storage of cereals and pulses — Part 3: Control of attack by pests*
- [7] ISO 7301:2011, *Rice — Specification*
- [8] ISO 14864:1998, *Rice — Evaluation of gelatinization time of kernels during cooking*
- [9] IEC 61010-2, *Safety requirements for electric equipment for measurement, control, and laboratory use — Part 2: Particular requirements for laboratory equipment for the heating of material*
- [10] STANDARD No. I.C.C. 167, *Determination of the protein content in cereal and cereal products for food and animal feeding stuffs according to the Dumas combustion method* (see <http://www.icc.or.at>)
- [11] Nitrogen-ammonia-protein modified Kjeldahl method — Titanium oxide and copper sulfate catalyst. *Official Methods and Recommended Practices of the AOCS* (ed. Firestone, D.E.), AOCS Official Method Ba Ai 4-91, 1997, AOCS Press, Champaign, IL
- [12] BERNER D.L., & BROWN J. Protein nitrogen combustion method collaborative study I. Comparison with Smalley total Kjeldahl nitrogen and combustion results. *J. Am. Oil Chem. Soc.* 1994, 71 (11) pp. 1291-1293

按数字顺序排列：

- 其他所遵循的ISO标准
- 区域标准
- 国家标准
- 文献参考

或

按文中引用的顺序排列

# 参考文献

- 文件中资料性引用的文件
- 补充/背景资料
- ISO 690中的参考文献指南
- 避免列出过多的参考资料

## 6.3 Nitrogen content and crude protein content

Determine the nitrogen content and crude protein content in accordance with either ISO 16634:—, Clause 9, or ISO 20483. For details on the determination of protein content using the Kjeldahl method, see Reference [12] in the Bibliography. For details concerning the use of the Dumas method, see References [10] and [16].

Calculate the crude protein content of the dry product by multiplying the value of the nitrogen content by the conversion factor specified in ISO 20483:2013, Annex C and Table C.1, that is adapted to the type of cereals or pulses [13][14] and to their use.



# 有什么区别？

	内容	位置	ISO规则
规范性引用文件	标准中 <b>规范性</b> 引用的文件清单	第2章	规范性
参考文献	标准中 <b>资料性</b> 引用的文件清单	文件结束	资料性



# 概述

- EPM的作用
- ISO 语言  
(表述形式&简明的语言)
- 标准的结构
- 标准的要素/ISO起草规则

# 表

Table A.2 — Precision data

Sample (density)	Test method	Mean value	Within laboratory			Between laboratories		
		N/cm	$s_r$	$r$	( $r$ )	$s_R$	$R$	( $R$ )
A (22 kg/m <sup>3</sup> )	Method A <sup>a</sup>	4,80	0,325	0,91	19,0	0,275	0,77	16,0
	Method B <sup>b</sup>	6,68	0,136	0,38	5,69	0,150	0,42	6,29
B (32 kg/m <sup>3</sup> )	Method A <sup>a</sup>	4,03	0,625	1,75	43,4	0,520	1,46	36,2
	Method B <sup>b</sup>	6,52	0,375	1,05	16,1	0,271	0,76	11,66

$s_r$  is the within-laboratory standard deviation (in measurement units).

$r$  is the repeatability (in measurement units).

( $r$ ) is the repeatability (in percent of mean value).

$s_R$  is the between-laboratory standard deviation (in measurement units).

$R$  is the reproducibility (in measurement units).

( $R$ ) is the reproducibility (in percent of mean value).

NOTE Test speed = 500 mm/min.

<sup>a</sup> Trouser test piece.

<sup>b</sup> Angle test piece without nick.

表题

表头

表身

表中的注和  
脚注

# 图

图中使用的单位

图

标引序号说明

Key

- 1 mandrel shank
- 2 blind rivet head

The mandrel shall be designed such that the blind rivet end deforms during installation, and the shank can expand.

NOTE This figure illustrates a type A rivet head.

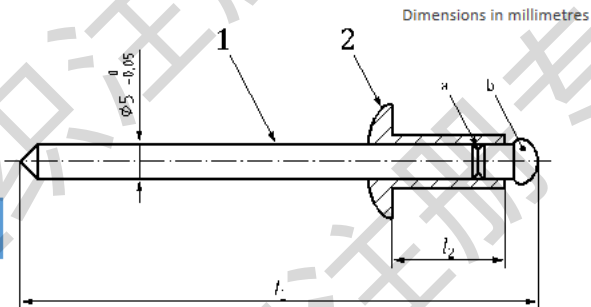
- a The break area shall be milled.
- b The mandrel head is commonly chromium plated.

图的脚注

图注

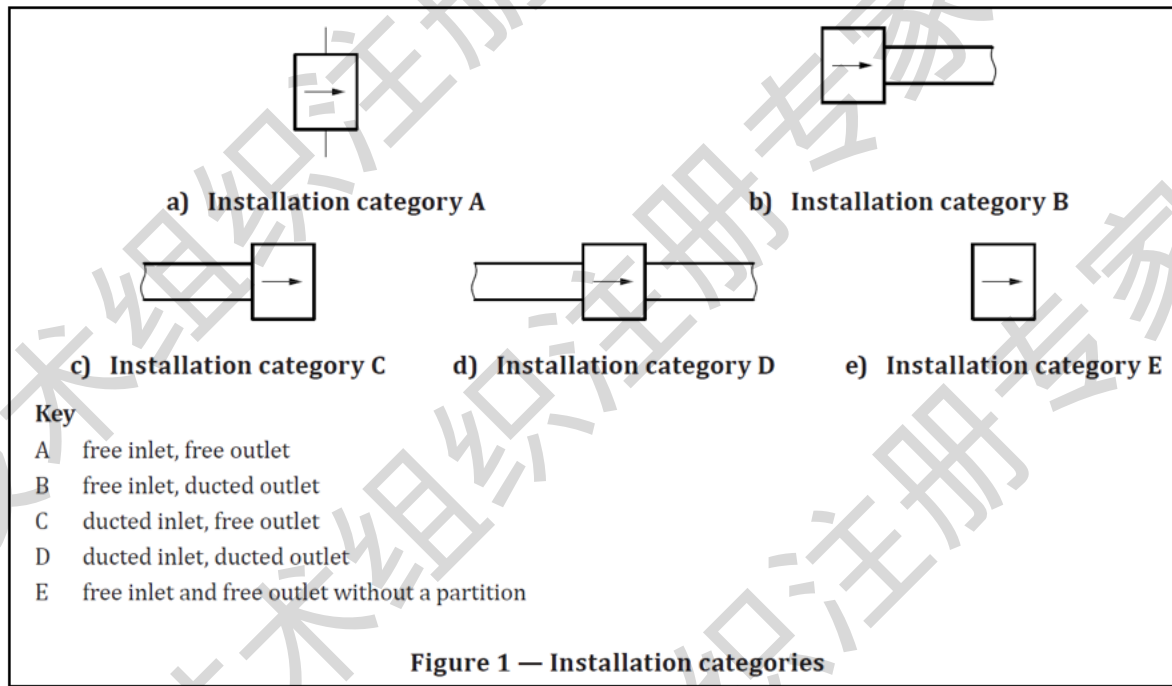
Figure 1 — Blind rivet

图题



图的要求

# 分图



# 避免在线图中出现文字

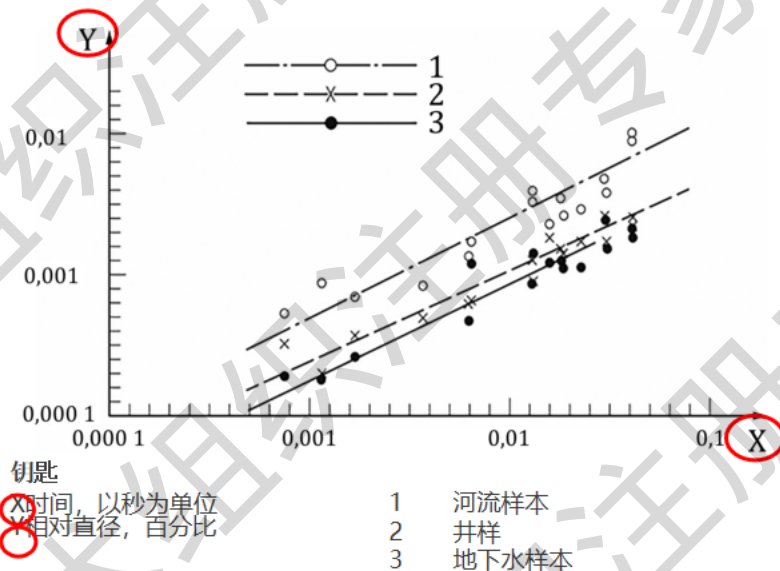


图3 - 水样

# 流程图

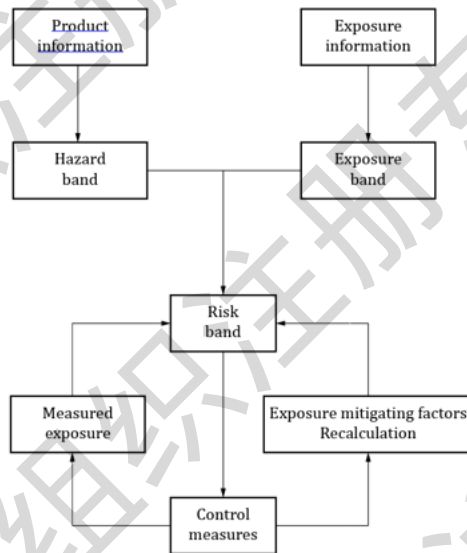


图1 - 流程图的例子

ISO 5807给出了更多关于流程图的信息

# 经许可转载的图



来源：美国Rickly水文公司： Rickly水文公司，美国。经作者许可转载。

**图A.3 - Ponar抓斗的例子**








# 图和表

- 清晰的方式呈现信息
- 应在文中进行引用
- 用阿拉伯数字连续编号：  
图1 ...图2 ...图3
- 附录中的编号：表A.1 ...表A.2 ...表A.3

# 图的最佳实践

- 清晰的线条--不是模糊的
- 简洁--不要用细节扰乱图
- 一致性--使图在整个文件中看起来都一样
- 完整--所有必要的元素都在图中体现了吗？
- 发送一个可修改的格式
  - 更容易编辑
  - 可在后续版本中重复使用
- 尽早将图与草案分开发送
- 避免在图中出现文字--它们应是语言中立的

# 图形符号

Safety sign					
Reference number	E001	F001	M001	P001	W001
Referent	Emergency exit (left hand)	Fire extinguisher	General mandatory action sign	General prohibition sign	General warning sign

# 注

Each label shall have a length of between 25 mm and 40 mm and a width of between 10 mm and 15 mm.

NOTE The size of the label was chosen so that it will fit most sizes of syringe without obscuring the graduation marks.

- 提供补充信息
- 协助理解/使用标准
- 标准应可在没有注释的情况下使用
- 没有要求、建议或许可
- 如果在同一条款、表格或图中有多个，则进行编号

# 示例

The generic model can be applicable to other possible manufacturing operations categories or for other operations areas within the enterprise.

EXAMPLE      A company could apply the model to receiving operations management and associated services.

- 说明文件中提出的概念
- 标准应在没有例子的情况下使用
- 没有要求、建议或许可
- 如果在同一条款、表格或图中有多个，则进行编号

# 文本的层次

简单的  
模板

## 6 Test methods

章

### 6.1 Moisture content

Determine the mass fraction of moisture in accordance with the method specified in ISO 712.

### 6.2 Waxy rice content

Determine the mass fraction of waxy rice. [Annex B](#) gives an example of a suitable method.

### 6.3 Nitrogen content and crude protein content

Determine the nitrogen content and crude protein content in accordance with either ISO 16634:—, Clause 9, or ISO 20483. For details on the determination of protein content using the Kjeldahl method, see Reference [\[12\]](#) in the Bibliography. For details concerning the use of the Dumas method, see References [\[10\]](#) and [\[16\]](#).

Calculate the crude protein content of the dry product by multiplying the value of the nitrogen content by the conversion factor specified in ISO 20483:2013, Annex C and Table C.1, that is adapted to the type of cereals or pulses [\[13\]](#)[\[14\]](#) and to their use.

条

段

# 文本的层次

- 对章进行**细分编号**
- 同一层级至少有**两个**分条，例如：

## 4 测试方法

### 4.1 概述

条标题后的文本。

### 4.2 取样

条标题后的文本。


### 4.3 程序


4.3.1 关于程序的文本。

4.3.2 关于程序的文本。

- 注意：如果4.1有标题，4.2也必须有。如果4.3.1没有标题，4.3.2就不能有标题。

# 悬置段

Incorrect	
<b>5 Uncertainty of the certified value</b>	
The combined expanded uncertainty of the measurement is calculated...	} hanging paragraph
<b>5.1 Budget of uncertainty</b> [...]	

Correct	
<b>5 Uncertainty of the certified value</b>	
<b>5.1 General</b>	
The combined expanded uncertainty of the measurement is calculated...	
<b>5.2 Budget of uncertainty</b> [...]	

- 应避免使用 "悬置段", 因为对它们的引用是不明确的。
- 如果你提到 "第5章", 也是指整个条款的内容。



# 列项

- 有编号的列项--最多 3 级： a) → 1) → i)

## EXAMPLE 1

The following basic principles shall apply to the drafting of definitions.

- a) The definition shall have the same grammatical form as the term:
  - 1) to define a verb, a verbal phrase shall be used;
  - 2) to define a singular noun, the singular shall be used.
- b) The preferred structure of a definition is a basic part stating the class to which the concept belongs, and another part enumerating the characteristics that distinguish the concept from other members of the class.

- 无编号的列项

## EXAMPLE 2

No switch is required for any of the following categories of apparatus:

- apparatus having a power consumption not exceeding 10 W under normal operating conditions;
- apparatus having a power consumption not exceeding 50 W, measured 2 min after the application of any of the fault conditions;
- apparatus intended for continuous operation.

# 国际标准的编写

- 文件类型
- rice model
- ISO/IEC Directives, Part 1
- ISO/IEC Directives, Part 2
- GB/T 1.1
- GB/T 1.2
- 标准化文件的起草

2023

# 感谢您的聆听

**冶金工业信息标准研究院**

政府和企业信赖的冶金信息和标准化科技服务机构

