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精密铸造件,表面验收标准,目视检查的标准惯例

## Standard Practice for Investment Castings, Surface Acceptance Standards, Visual Examination<sup>1</sup>

This standard is issued under the fixed designation A 997; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

本标准是在A997 规定的基础上发布的,其后的数字98表明起始采纳年度,如果经过修订,表示最后修订年度,括号中年度表明最后复批年度,上标表示自最后批准或修订后有版本变化

### 1. Scope 1. 范围 1.1 本惯例适用于精密铸造件目视检查表面验收

1.1 This practice covers the acceptance criteria for surface inspection of investment castings by visual examination.

1.2 The values stated in SI units are to be regarded as the standard. 1.2 本惯例中国际单位制数值视为标准值

1.3 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determining the applicability of the standard to the specific conditions of use.

1.3 本惯例不穷举与其用途相关的安全关注点.本惯例使用者应该建立恰当的安全健康操作和在使用前决定管理极限的应用.

### 2. Terminology

2. 术语 2.1 D2.1 本标准的特定术语定义 to This Standard:

2.1.1 线性不连续--长度大于或等于宽度的3倍的不连续,开裂和冷隔是此类典型.

2.1.2 positive metal, n--raised metal on the casting surface

2.1.2 多余金属(表面凸起)--铸件表面凸出的金属,of the mold and its typical with mold failure or change of casting metal material.

2.1.3 surface pit, n--a non linear depression in the cast surface. Surface pits are not linear, length times its width. Surface pits are not linear, length times its width. Surface pits are not linear, length times its width.

2.1.4 surface roughness, n--a measure of surface texture usually determined by the use of a comparator.

2.1.4 表面粗糙--铸件表面组织通过使用比较样块确定.

### 3. Ordering Information 3. 采购信息

3.1 The inquiry or order should specify the following information: 3.1 询价单或采购单应明确以下信息

3.1.1 Acceptance Level--More than one acceptance level

3.1.1 验收标准-针对同一铸件的不同表面可以规定一个以上接受标准(见第4章)

3.1.2 If any types of discontinuities are unacceptable,

3.1.3 Casting surfaces to be examined, 3.1.3 需要检查的表面

3.1.4 Number of castings to be examined, and

3.1.4 需要检查的铸件数量

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.18 on Castings.

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3.1.5 Additional acceptance criteria as applicable to all or portions of the casting surface.

3.1.5 单列的适用于铸件的全部或部分表面的验收标准

### 4. Acceptance Criteria 4. 验收标准

4.1 Levels of acceptance for visual inspection are listed in Table 1. 4.1 目视检查验收标准见表1

表1 目视检查验收标准

TABLE 1 Visual Inspection Acceptance Criteria<sup>A,B</sup>

Surface 表面特征	Level II 二级	Level III 三级	Level IV 四级
Surface Pits <sup>C,D,E</sup> 表面凹坑	0.030 in. (0.76 mm) 凹坑直径0.030英寸,深度0.015英寸,每平方米不超过1个	0.060 in. (1.52 mm) 凹坑直径0.060英寸,深度0.030英寸,每平方米不超过1个	0.060 in. (1.52 mm) 凹坑直径0.060英寸,深度0.030英寸,每平方米不超过4个
Positive Metal <sup>D,E</sup> 表面凸起	0.060 in. (1.52 mm) 凸出直径0.060英寸,高度0.015英寸,每平方米不超过1个	0.125 in. (3.18 mm) 凸出直径0.125英寸,高度0.030英寸,每平方米不超过1个	0.125 in. (3.18 mm) 凸出直径0.125英寸,高度0.030英寸,每平方米不超过4个
Parting Line and Ejector Pin Marks 分型线或喷嘴高度	0.005 in. (0.13 mm) 0.005 英寸 (0.13 毫米)	0.010 in. (0.25 mm) 0.010 英寸 (0.25 毫米)	0.020 in. (0.51 mm) 0.020 英寸 (0.51 毫米)
Gate Height <sup>F</sup> 浇口高度	0.015 in. (0.38 mm)	0.030 in. (0.76 mm)	0.45 in. (1.14 mm)
Surface Roughness <sup>E</sup> 表面粗糙	100 $\mu$ in. (2.5 $\mu$ m) 100 微英寸(2.5 微米)	125 $\mu$ in. (3.2 $\mu$ m)	200 $\mu$ in. (5.0 $\mu$ m)

<sup>A</sup> Features in excess of those specified in the table are not acceptable.

<sup>B</sup> Level I criteria may be established in the future depending on need.

<sup>A</sup> 超出规范表1 不可接受

<sup>B</sup> I级标准视需要将来建立

<sup>C</sup> 表面坑深度不得超过图纸规定最小壁厚

<sup>D</sup> 表面余料或凹坑直径和高度或深度小于0.010英寸(0.25毫米)不予考虑

<sup>E</sup> 取决于比较样板或触觉源

<sup>F</sup> 加工面或非加工面

4.2 Parts shall not exhibit any linear discontinuities.

4.3 Surface roughness and surface pits that will be removed by machining are considered acceptable.

4.4 Surface discontinuities not covered in this practice shall be a matter of agreement between the purchaser and the manufacturer.

4.2 零件不能有任何线性不连续

4.3 表面粗糙或凹坑在后续加工中被去除可以被接受

4.4 本惯例中未包括的表面不连续应由客户和供应商商谈后达成协议.



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