

International / National Standards for Pen Caps & End Closures of the Writing & Marking Instruments 用于书写及标记的文具钢笔帽及端盖的国际/国家标准

Pen Caps:

Safety of Pen Caps has been discussed in our previous STR newsletters # and Table 1 gives an overview of the current applicable national / international safety standards for pen caps, summarizing their similarities and differences.

钢笔帽 /:

安全钢笔帽：在早前的 STR 通讯#及表 1 中所给出的一个目前适用的国际 /国内钢笔帽安全标准的综述，归纳了两者之间的相同点及差别。



Table 1 - Current Applicable National / International Safety Standards for Pen Caps
表 1 - 现行适用的有关钢笔帽的国际 /国内安全标准

| Requirements 要求 | UK /英国 | | International/国际 | Japan/日本 | China/中国 |
|--|--|--|------------------|-------------------|----------------------------|
| | BS 7272-1: 2008 | BS 7272-1:2000 (with amendment No.1)/ (Withdrawn & replaced by BS 7272-1:2008) 撤销 BS 7272-1:2000 修订 1 并由 BS 7272-1:2008 替代 | ISO 11540:1993 | JIS S 6060:1996 | GB 21027-2007 |
| General requirement 一般要求 | Clause / 条款 3.1 | Clause / 条款 3.1 | Clause / 条款 3.1 | Clause / 条款 3.1 | Clause / 条款 3.7 |
| | Caps shall comply with the requirements of Cap Size, or Ventilated Caps Air Flow. 笔帽应执行笔帽尺寸或笔帽通风气孔的要求 | Caps shall comply with the requirements of Cap Size, Ventilated Caps Vent Area or Ventilated Caps Air Flow. 笔帽应执行笔帽尺寸，笔帽透气区域或笔帽通风气流的要求。 | | | |
| Cap size 笔帽规格 | Clause / 条款 3.2 | Clause / 条款 3.2 | Clause / 条款 3.2 | Clause / 条款 3.2 | Clause / 条款 3.7.1 |
| | A Cap is introduced with its main axis perpendicular to a 16 (+0.05, -0) mm diameter ring gauge of 19 mm thickness and part of the cap enters that gauge, at least 5 mm of the length of the cap shall not enter under its own weight. 采用的笔帽其垂直主轴环直径规格为 16 (+0.05, -0) mm，厚度为 19 mm 且笔帽自重插入时至少 5 mm 长度不能插入。 | A Cap is introduced with its main axis perpendicular to a 16 (+0.05, -0) mm diameter ring gauge and part of the cap enters that gauge, at least 5 mm of the length of the cap shall not pass freely through it. 采用的笔帽其垂直主轴环直径规格为 16 (+0.05, -0) mm，且笔帽插入部分至少 5 mm 长度不应完全自由插入。 | | | |
| Ventilated caps vent area 笔帽通风排气区域 | Annex B (Informative)* 附录 B (信息) | Clause / 条款 3.3 | Clause 3.3.1 | Clause / 条款 3.3.1 | Clauses / 条款 3.7.2 & 4.6.2 |
| | <p>? A continuous air passage of at least 6.8 mm² shall (*should) extend for the length of the cap body. 一个连续的空气通过的面积至少 6.8 mm² 应该延长到笔帽的长度。</p> <p>? The cross-sectional area of the continuous air passage, if not entirely enclosed, shall (*should) be that area that would be encompassed by a thin piece of cotton thread wrapped tautly around any section perpendicular to the main axis or to the largest dimension. 连续的空气通过横截面，如果不能完全封堵住，该区域应该被一段细棉线缠绕四周，即到主轴的垂直部分或最大直径部位。</p> <p>? Where a clip or other protrusion is the means of providing the air passage, it shall (*should) be securely fixed and shall not be more than 2 mm short of either end of the cap body (*should extend to within at least 2 mm of each end of the cap body). However, the clip may extend any distance beyond the end of the cap body. 夹片或其它突出物提供的气体通道，其应安全地安装且不能超过笔帽体两端的 2 mm，(*应至少延伸为笔帽体两端的 2 mm)。然而，夹片可能延伸的距离超过笔帽体的末端。</p> | | | | |

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|--|--|---|--|---|---|
| | BS 7272-1: 2008 | BS 7272-1:2000 (with amendment No.1)/ (Withdrawn & replaced by BS 7272-1:2008) 撤销 BS 7272-1:2000 修订 1 并由 BS 7272-1:2008 替代 | ISO 11540:1993 | JIS S 6060:1996 | GB 21027-2007 |
| | Clause/条款 3.3 | Clause/条款3.4 | Clause/条款 3.3.2 | Clause/条款 3.3.2 | Clause/条款 3.7.3 |
| | Caps shall permit a minimum air flow of 8 l/min, measured at room temperature, with a maximum pressure difference of 1.33 kPa. 笔帽应允许最小的气流量为 8 l/min, 室温下在最大压差为 1.33 kPa | | | | |
| Ventilated caps air flow 笔帽通风气流量 | No specific requirement for test sample size but the following items shall be reported: ? No. of caps tested; ? Airflow of each cap in both directions; ? The minimum air flows recorded; ? Size of the tubing used & its relationship to the circumscribing circle of the cap tested. 对测试样品的尺寸没有特殊要求, 但应报告以下项目: ? 测试的笔帽编号; ? 在两个方向上的气流量 ? 记录最小气流量; ? 所用管材的尺寸及与测试相关的笔帽环 | No specific requirement for test sample size. Air flow test shall be performed in both directions of each cap. Report the minimum air flow recorded. 对测试样品的尺寸没有特殊要求, 允许在每个笔帽的两端测试气流量, 报告记录的最小气流量。 | Test 10 caps in both directions, giving a total of 20 air flow results. Record separately the air flows for each cap tested. Report the minimum air flow recorded. 在两个方向上测试 10 个笔帽, 给出总数为 20 个的气流量结果, 分别记录每个笔帽的气流量测试, 报告记录的最小气流量。 | | |
| | Clause/ 条款 4 | Clause/ 条款 4 | Clause /条款 4 | Clause/ 条款 4 | Clause/ 条款 6 |
| Marking (or Identification) 标记 (或识别) | ? Shall be legibly and indelibly marked. 应该是清晰且永久的标记 ? Shall contain the name, trademark or other means of identifying the manufacturer / supplier on products or its packaging or accompanying documentation. 在产品或其包装上或附加文件中应该包含名称, 商标或以其它方法标注制造商/供应商 | ? Shall be legibly and indelibly marked. 应该是清晰且永久的标记 ? Shall contain the name, trademark or other means of identifying the manufacturer / supplier on products or its packaging or accompanying documentation. 在产品或其包装上或附加文件中应该包含名称, 商标或以其它方法标注制造商/供应商 | ? Shall be legibly and indelibly marked. 应该是清晰且永久的标记 ? Shall contain the name, trademark or other means of identifying the manufacturer / supplier on products or its packaging. 在产品或其包装上应该包含名称, 商标或以其它方法标注制造商/供应商 ? Reference to this international standard (i.e., ISO11540:1993). 参考该国际标准 (i.e., ISO11540:1993) | ? Shall be legibly and indelibly marked. 应该是清晰且永久的标记 ? Shall contain the name, trademark or other means of identifying the manufacturer / supplier on products or its packaging. 在产品或其包装上应该包含名称, 商标或以其它方法标注制造商/供应商 ? (Optional) Reference to this standard, JIS S 6060:1996, with title of standard or explanation about the compliance with that safety requirement shall be expressed. (非强制性) 参考该标准 JIS S 6060:1996 带有标准的标题或对安全要求的解释应给与表示。 | Shall comply with the requirements of GB5296.5-2006, i.e., 应执行 GB5296.5-2006 的要求: ? shall be legibly and indelibly marked. 应该是清晰且永久的标记 ? shall contain the product name, model number, a reference to this GB standard (i.e., GB21027-2007), name and address of the manufacturer / supplier on products or its packaging. 在产品或其包装上应该包含产品名称, 型号、一个参考 GB 的标准 (GB21027-2007), 制造商/供应商的名称及地址。 |

End Closures / 端盖:

The first standard concerning the Safety of End Closures was published by the British Standards Institution (BSI) in September, 2000 and was recently revised in April, 2008 to the 2nd edition. So far, BS 7272-2 is the only available published safety standard for end closures. To allow suppliers with sufficient time to comply with the new edition, BS 7272-2:2008 will become effective 18 months after the publication date and the 1st edition (BS 7272-2:2000) will be withdrawn on 30 September, 2009. The similarities and differences between the 1st and 2nd editions are given in Table 2.

2000 年9月英国标准委员会(BSI)发布的首个涵盖端盖的安全标准且近期于2008年4月修订为第2版。迄今为止, BS7272-2 是唯一有效发布的有关端盖的安全标准。BS 7272-2:2008 在发布日期后到正式生效将有 18 个月, 允许供应尚有足够的时间执行新版标准, 而且第 1 版(BS 7272-2:2000) 将在 2009 年 9 月 30 日被撤销。第 1 版与第 2 版两者之间的异同点将在表 2 中呈现。

Table 2 – Summary of the Similarities and Differences between BS 7272-2:2008 and BS 7272-2:2000 for the Safety of End Closures

表 2 - 有关端盖安全标准 BS 7272-2:2008 与 BS 7272-2:2000 两者之间的异同点摘要

| Requirements 要求 | UK/英国 | |
|------------------------------|--|---|
| | BS 7272-2: 2008 | BS 7272-2:2000 (with Corrigendum No. 1) / 勘误表 1 (Superseded by BS 7272-2:2008 & to be withdrawn on 30 Sept, 2009) |
| General requirement 一般要求 | Clause / 条款 4.1 Except for cap-like end closures and those secured by a thread, which shall conform to the requirement of Additional Safeguard, other end closures shall conform to at least one of the requirements of Size, Security, Inaccessibility, Minimal Protrusion or Air Flow. 除了类似端盖的笔帽及用细线固定, 应确认额外的保护要求外、其它端盖至少应符合尺寸、安全性、不可触及性、最小突出或气流量的要求。 | Clause/条款 4.1 End closures shall conform to at least one of the requirements of Size, Security, Inaccessibility, Minimal Protrusion or Air Flow. 端盖至少应符合尺寸、安全性、不可触及性、最小突出或气流量的要求之一。 |
| Size 规格 | Clause / 条款 4.2 An end closure shall not pass through a 16 (+0.05, -0) mm diameter ring gauge of at least 19 mm thickness under its own weight. 一个端盖自重情况下不应通过直径为 16 (+0.05, -0) mm, 其厚度至少在 19 mm 的环。 | Clause/ 条款 4.2 |
| Security 安全性 | Clause/ 条款 4.3 The end closure shall not be removed when subjected to a force of 50 (+2, -0) N applied in line with the body of the writing or marking instrument. 书写或标记笔帽体在受到 50 (+2, -0)力作用下端盖不应移动。 | Clause/条款 4.3 |
| Inaccessibility 不可及的 | Clause/条款 4.4 The end closure when in the form of a plug shall be completed recessed, and be reasonably secure by withstanding a minimum force of 10 N, applied in line with the body of the writing or marking instrument. 插入式端盖在施加一个延笔体方向的最小 10N 的力时, 应完全不动并相当安全。 | Clause/ 条款 4.4 |
| Minimal protrusion 最小突起 | Clause / 条款 4.5 The grippable surface of an end closure, when in the form of a plug, shall not extend more than 1 mm beyond the end of the writing or marking instrument and overall the end closure shall not extend more than 3 mm beyond the end of the writing or marking instrument. 一个插入式端盖的握紧表面, 延伸应不能超过书写或标记笔末端 1 mm 的范围且整个端盖不应超过书写或标记笔末端 3 mm 的范围 It shall be reasonably secure by withstanding a minimum force of 10 N, applied in line with the body of the writing or marking instrument. 在施加一个延笔体方向的最小 10N 的力时, 其应保持安全。 | Clause / 条款 4.5 |
| Air flow 气流量 | Clause / 条款 4.6 An end closure shall permit a minimum air flow of 8 l/min, measured at room temperature, with a maximum pressure difference of 1.33 kPa. 一个端盖应允许最小为 8 l/min 的气流量, 室温下测量最大压差为 1.33 kPa。 It shall be reasonably secure by withstanding a minimum force of 10 N, applied in line with the body of the writing or marking instrument. 在施加一个延笔体方向的最小 10N 的力时, 其应保持安全。 | Clause/ 条款 4.6 |
| Additional safeguard 额外保护 | Clause / 条款 4.7 Where the end closure is in the form of a cap and fits over the barrel (instead of inside it like a plug) and its length exceeds its diameter or the end closure is secured by a screw thread but does not conform to the requirements of size, or inaccessibility, it shall meet both requirements of security and air flow. 端盖以笔帽的形式且安装在整个管状(替代内部插入式)且其长度超过其直径或端盖用一个螺栓紧固而不是按照其尺寸或不可触及的要求, 其应满足安全及气流量二者的要求。 | --- |
| Identification 识别 | Clause/ 条款 7 ? Shall be legibly and indelibly marked./ 应该是清晰且永久的标记 ? Shall contain the name, trademark or other means of identifying the manufacturer / supplier on products or its packaging or accompanying documentation. 在产品或其包装上或附加文件中应该包含名称, 商标或以其它方法标注制造商 / 供应商。 | Clause / 条款 5 |

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