Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

**Doc Type: Working Group Document**
**Title: Proposal to encode a Subscript Solidus in the UCS**
**Source: German NB**
**Author: Karl Pentzlin**
**Status: National Body Contribution**
**Action: For consideration by JTC1/SC2/WG2 and UTC**
**Date: 2018-06-12**
**Replaces: L2/11-039 = JTC1/SC2/WG2/WG2 N3980**

This revision adds an argument for encoding the character; otherwise it is unchanged.

## *Block: Superscripts and Subscripts*

/ U+208F SUBSCRIPT SOLIDUS
≈ <sub> 002F solidus

### Properties:

```
208F;SUBSCRIPT SOLIDUS;Sm;0;ON;<sub> 002F;;;;N;;;;;
```

The "subscript solidus" was proposed before (N2788 = L2/04-191 of 2004-06-07) by Deborah Anderson and Michael Everson, based on its use by Indo-Europeanists (see fig. 1). It was the only character contained in that proposal which was not accepted by UTC #99 (without documenting the reason for that decision in the minutes L2/04-156R2).

The character is reproposed here, as additional evidence was found for its use in plain text (see fig. 2 and 3), from an area complete different from linguistics.

There is a German standard DIN EN 13501 for the classification of fire protecting doors which specifies how doors are to be identified regarding to fire and smoke protection requirements, to get the European CE conformance mark. There, fire protection is to be marked as "$I_{1/2}$" (or more specific as "$I_1$" or "$I_2$" to denote one of the two specific method of proof of the fire protection property referenced there). Likewise, smoke protection is to be marked by "$S_{a/m}$" (or more specific as "$S_a$" or "$S_m$" to denote one of the two specific ways of smoke protection referenced there).

Such use of the subscripted "1/2" and "a/m" is definitely plain text.

Therefore (while the subscripted "1", "2", "a", "m" are already encoded), the "subscript solidus" is needed here as an encoded character.

The author can confirm this directly from his professional work, where he develops software for calculating and administrating commercial offers for such building supplies. There, text blocks have to be managed describing the items offered in detail (thus containing "$I_{1/2}$" or "$S_{a/m}$"), which are exchanged by interfaces to different proprietary software modules using these text blocks in call for bids, order confirmations, etc. None of these software modules, being designed for commercial and not for aesthetic purposes, is in any way capable to deal with any kind of higher level protocol to insert such texts into commercial documents—only true plain text can be processed.

(At this time, the problem is eluded by writing "$I_1/I_2$" and "$S_a/S_m$" instead of "$I_{1/2}$" and "$S_{a/m}$", which is tolerated as a temporary stopgap although recognized as incorrect.)

The previous version of this proposal was rejected arguing that such a character can be represented by applying a higher level protocol, like HTML.

Does somebody really believe that such protocols are implemented in an interface of a device which has the only purpose to etch the required information tag showing the fire protection class into a door frame?

No, font hacks are used, unless the characters are available in Unicode.

Therefore, this proposal is presented again now.

## Examples and Figures

**Fig. 1:** Proposal to encode six Indo-Europeanist phonetic characters in the UCS (Deborah Anderson and Michael Everson 2004-06-07). ISO/IEC SC2/WG2 document N2788; UTC document L2/04-191.
Excerpt from p.3, showing the examples of the SUBSCRIPT SOLIDUS as proposed there.

the wrong laryngeal: *$h_{1/3}$*al-u-t-*]

**Figure 10**. Subscripted / is used between two numbers indicating the laryngeal, as in ***$h_{1/3}$al-u-t-** here.
Mark Southern. 1999. *Subgrammatical Survival: Indo-European s-mobile and its Regeneration in Germanic*. (Journal of Indo-European Studies Monograph; 34) Washington, DC: Institute for the Study of Man. Page 124.

IE *-∂- (a combination of a *H with a reduced vowel) > SA *-a- in the middle of a word: HLuw. *ti-wali-tarali-* (daughter), Lyc. *kbatr-a*[17] < IE **dhug'hH*($_{e/o}$)*ter*, Skt. *duhitar-*, Gk. θυγάτηρ, Toch. B *tkācer*, oblique

**Figure 11**. Subscripted / is used between two letters indicating the laryngeal, as in ***dhug'hH($_{e/o}$)ter** here.
Vyacheslav Ivanov. 2001. "Southern Anatolian and Northern Anatolian". in *Greater Anatolia and the Indo-Hittite Language Family: Papers presented at a colloquium hosted by the University of Richmond, March 18-19, 2000*, ed. Robert Drews, (Journal of Indo-European Studies Monograph; 38) Washington, DC: Institute for the Study of Man. Page 134.

**Fig. 2:** Spezialtüren Handbuch 2012 (special doors compendium 2012), a book supplied by a leading German manufacturer of building supplies (Schörghuber Spezialtüren KG, Ampfing, Germany) to its customers and to architects.
Excerpt from p.8, introducing the standards relevant for fire protection doors.

Die Klassifizierung erfolgt gemäß DIN EN 13501-2 mit folgenden Bezeichnungen:

| | |
|---|---|
| E | Raumabschluß |
| $I_{1/2}$ | Wärmedämmung (bei Feuerschutztüren mit Index 1 oder 2) |
| C | Dauerhaftigkeit der Selbstschließung (C0 – C5) |

**Fig. 3:** ibid., excerpt from p.150, introducing the standards relevant for smoke protection doors.

Die Klassifizierung erfolgt gemäß DIN EN 13501-2 mit folgenden Bezeichnungen:

| | |
|---|---|
| $S_{a/m}$ | Rauchdichtheit (mit Index a oder m) |
| C | Dauerhaftigkeit der Selbstschließung (C0 – C5) |

**ISO/IEC JTC 1/SC 2/WG 2**
**PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS**
**FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646**[1]
**Please fill all the sections A, B and C below.**
**Please read Principles and Procedures Document (P & P) from** http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html **for guidelines and details before filling this form.**
**Please ensure you are using the latest Form from** http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.
**See also** http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html **for latest *Roadmaps*.**

## A. Administrative

1. **Title:** *Proposal to encode a Subscript Solidus in the UCS*
2. Requester's name: *German NB*
3. Requester type (Member body/Liaison/Individual contribution): *Member Body Contribution*
4. Submission date: *2011-01-16, revised 2018-06-12*
5. Requester's reference (if applicable):
6. Choose one of the following:
   This is a complete proposal: *Yes*
   (or) More information will be provided later:

## B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): *No*
      Proposed name of script:
   b. The proposal is for addition of character(s) to an existing block: *Yes*
      Name of the existing block: *Superscripts and Subscripts*
2. Number of characters in proposal: *1*
3. Proposed category (select one from below - see section 2.2 of P&P document):
   A-Contemporary X B.1-Specialized (small collection) B.2-Specialized (large collection)
   C-Major extinct D-Attested extinct E-Minor extinct
   F-Archaic Hieroglyphic or Ideographic G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided? *Yes*
   a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document? *Yes*
   b. Are the character shapes attached in a legible form suitable for review? *Yes*
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
   *Not necessary, as the representative glyph can be derived from the existing character U+002F SOLIDUS*
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *Yes*
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached? *Yes*
7. Special encoding issues:
   Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *No*

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see http://www.unicode.org/Public/UNIDATA/UCD.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

[1] Form number: N3702-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11)

**C. Technical - Justification**

1. Has this proposal for addition of character(s) been submitted before? *Yes*
   If YES explain *No decision was taken at it in N2788 = L2/04-191, new evidence is provided here (see text)*
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? *Yes*
   If YES, with whom? *The author himself is a member of the user community (see text)*
   If YES, available relevant documents:
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? *see text*
   Reference:
4. The context of use for the proposed characters (type of use; common or rare) *see text*
   Reference:
5. Are the proposed characters in current use by the user community? *Yes*
   If YES, where? Reference: *see text*
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? *Yes*
   If YES, is a rationale provided? *Yes*
   If YES, reference: *To keep it in line with related characters*
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? *No*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? *No*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? *No*
    If YES, is a rationale for its inclusion provided?
    If YES, reference:
11. Does the proposal include use of combining characters and/or use of composite sequences? *No*
    If YES, is a rationale for such use provided?
    If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?
    If YES, reference:
12. Does the proposal contain characters with any special properties such as control function or similar semantics? *No*
    If YES, describe in detail (include attachment if necessary)
13. Does the proposal contain any Ideographic compatibility character(s)? *No*
    If YES, is the equivalent corresponding unified ideographic character(s) identified?
    If YES, reference: