

IABSE

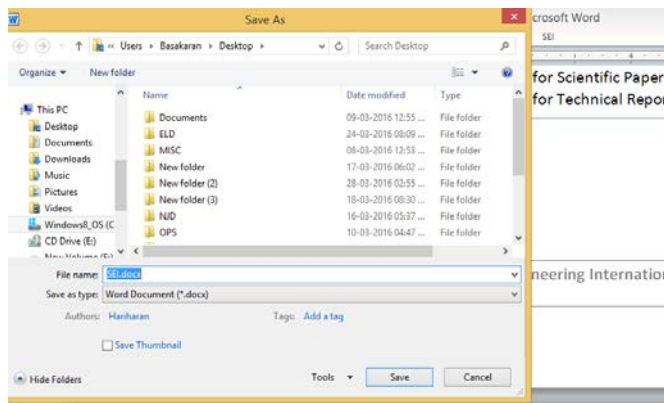
SEI – AUTHORIZING TEMPLATE GUIDELINES

Contents

1.	SEI Authoring Template	2
2.	SEI Menu	2
2.1	Article Category.....	2
2.2	Manuscript Submitted date	2
2.3	Article Main Title.....	3
2.4	Author Names	3
2.5	Abstract.....	3
2.6	Keywords.....	4
2.7	Body Text	4
2.8	Cross citations in the text.....	5
2.8.1	References cross citations.....	5
2.8.2	Figure & Table citations in the text.....	6
2.9	Equations	7
2.10	Tables and Figures.....	7
3.	References	8
3.1	Journal reference	9
3.2	Book reference.....	9
3.3	Other References	9
3.4	Constructing a Reference.....	9

1. SEI Authoring Template

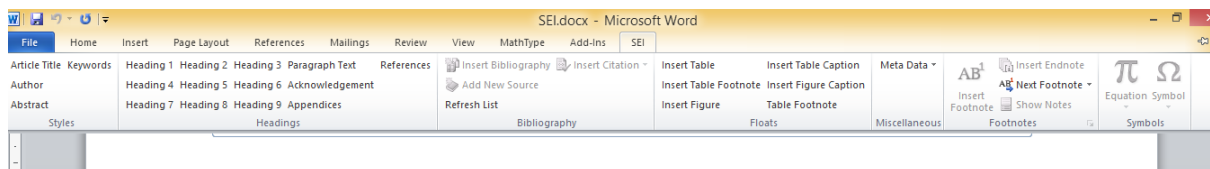
1. Download the SEI template from IABSE website for preparing your manuscript and submitting to IABSE (SEI).
2. You can open the template directly in Microsoft Word application 2007 or above version. Please save the template with your manuscript name or number, before you start preparing your manuscript.



3. Go through the instructions available in the first page of the template carefully and prepare the manuscript accordingly.

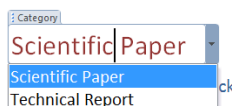
2. SEI Menu

You will find a “SEI” tab in the Menu bar (as shown below), as soon as the template/ document has been saved, and once you open it with Microsoft Word.



2.1 Article Category

Please select the appropriate paper category (Scientific Paper or Technical Report) in the template which is available in the second page. This will adjust the required word limit and style requirements.



2.2 Manuscript Submitted date

Enter the date of submission. The date can be entered in the option called “Submitted Date”.

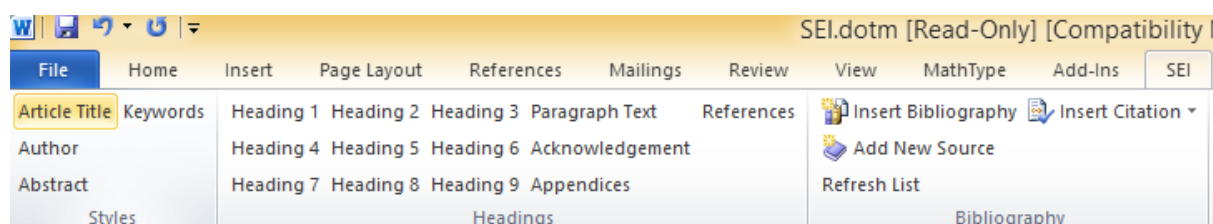


2.3 Article Main Title

Please type your paper's title in the field "Article Title" or copy and paste text in this field. Title should preferably not exceed 15 words, please do not use any acronyms in the title.

Click here to add article title. The title should not exceed 15 words.

You can also find an option in the SEI menu bar for adding an article title, if by mistake the "Article Title" field in the template has been deleted.



2.4 Author Names

Enter Author Names or list of creators in the field "Authors" and follow the instructions on the Author Names formatting along with affiliation details.

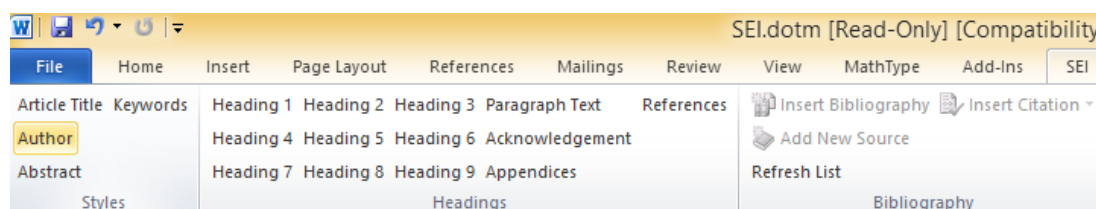
AUTHOR NAMES ORDER: Please list author names in full, designation, university/company name, city, country. Not more than 5 authors are allowed.

The final typeset output of your paper's title and author names sample is given below for your reference.

Procedures Used for Strengthening Pavia's Cathedral, Italy

Giorgio Macchi, Prof.; Stefano Macchi, Eng.; Studio Tecnico Macchi, Milano, Italy. Contact: giorgio12011930@hotmail.it

Also you can find an option in the SEI menu bar for adding an article title just in case if you have deleted the "Author" field in the template or the document that you have saved out of Template.



2.5 Abstract

Directly key in the Abstract text or copy-paste it in the field "Abstract" in the template. Please do follow the instructions on maximum number of words allowed as per IABSE. No cross citations such as references, figures, tables etc. are allowed in the Abstract's content.

Abstract

: Abstract

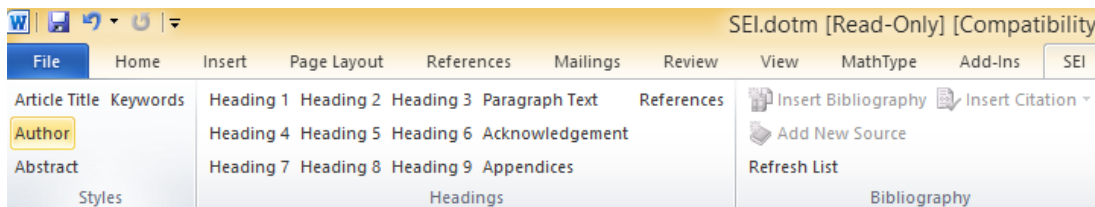
Click here to enter abstract. The abstract should contain no more than 200 words.

The final typeset output of an Abstract sample is given below for your reference.

Abstract

This paper deals with the two kinds of pathologies of Pavia's Cathedral discussed in a previous paper, and the intervention techniques implemented for its strengthening. Their conception and some details of the methods are described here. For the retrofitting of the pillars (first pathology), an innovative procedure was used, based on the horizontal precompression of the infill and on the partial transfer of the load from the marble lining to the infill, while for the cracked dome (second pathology), the increase in strength was achieved by a simple application of carbon-fibre strips to the main ribs.

You will also find an option in the SEI menu bar for adding an abstract or author details, if by mistake these fields were deleted in the template, before saving.



2.6 Keywords

Enter the keywords of your paper in the field "keywords" in the template, with a semicolon separator. Not more than 5 keywords are allowed as per IABSE style guide.

: Keywords

Keywords: Click here to enter keywords. Each keywords should be separated by semicolon. No more than 5 keywords allowed.

The sample typeset output of Keywords is given below for your reference.

Keywords: historical monuments; structural strengthening; innovations

2.7 Body Text

As per SEI journal guideline, following heading levels are mandatory both in Scientific and Technical Paper categories.

Introduction

Click here to enter introduction text.

Conclusions

Click here to enter conclusion text.

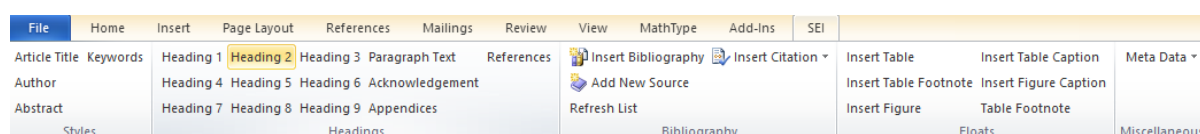
Acknowledgements

Click here to enter acknowledgement text.

References

Click here to enter reference text.

Your paper may have multiple headings / subheadings such as H1, H2, H3 and etc. within the mandatory sections given above. Authors are requested to apply formatting/styling to the subheadings using option available in “SEI” menu bar (as shown below).



An example of Mandatory section (Introduction) having sub heading is given below for your reference.

Introduction

From the safety and technical viewpoints, concrete dams are important structures and, therefore, health monitoring of these infrastructures is a main challenge for the dam owners. Alkali-aggregate reaction (AAR) is a chemical phenomenon that may jeopardize a dam's health. As reported in the literature, an old AAR-affected dam exhibits unexpected behaviour while that is as usual during its early life time. A list of AAR-affected dams along with their structural reactions is found in the report presented by the Swiss Federal Office for Water and Geology (FOWG).¹

AAR occurrence may be identified primarily by comparing the numerical simulation results with the in-field observations. But AAR has relatively intricate interactions with the structural responses that intensify the simulation complexities. The importance of identifying AAR and its effects has encour-

in Refs. [2] or [3]). Some of them suggested methods for mitigating the reaction damage or for developing remedial measures. In this regard, one may point to the research conducted in Refs. [4], [5] or [6]. Developing the mathematical formulations for modelling AAR's structural effects has been the main focus of some other investigations. An orthotropic model for modelling the AAR in the damaged structures is presented in Ref. [7]. A chemo-thermo-damage model capable of analysing AAR-affected concrete dams is presented in Ref. [8]. A phenomenological model having strong roots in various aspects of the reaction is discussed in Ref. [9]. In Ref. [10] a concrete model accounting for the coupling with other phenomena such as AAR is proposed.

Analytical computer programs can use the aforementioned mathematical models to predict the structural behaviour of AAR-affected structures. Such programs are calibrated using the

chemical and mechanical phases were coupled, was proposed in Refs. [15] and [16]. The modelled arches and gravity dams using the developed constitutive model yielded acceptable results.^{15,16}

In this study, a finite element model (FEM)-based computer program was developed for estimating the responses of AAR-affected structures. The thermal and structural states of a thin high arch dam were assessed using the developed program. The sensitivity of the analysis to the effects of contraction joints and construction stages were also investigated.

Simulation of Alkali Aggregate Reaction

Alkali-aggregate reaction (AAR) is a chemical phenomenon with undesirable effects on wet concrete structures. Absorption of moisture by the formed AAR gel results in an internal expansion that influences the responses of

2.8 Cross citations in the text

References, figures, tables, and equations (display or numbered) should definitely be cross cited within the main text. Authors are requested to follow below formatting for the cross citations.

2.8.1 References cross citations

- All references should be cited and all cited references must be included in the reference list. This includes references cited in tables and figure captions. Within text, only give the reference number and not researcher names or product names.

- References cited in the text should be indicated by numerical superscripts¹ in order of appearance^{2,3} following any punctuation. ⁴⁻⁶ e.g. The timber building under these conditions is robust¹
- References in the flow of the sentence should have the Ref. no. in third bracket. E.g. This paper is based on Ref. [1]. When more than one then: Refs. [1, 4].
- References should be listed in numerical order at the end of the paper.

Sample output is given below

<p>Introduction</p> <p>The precarious situation of Pavia's Cathedral is common in heritage buildings, which are usually heavy masonry structures whose hazardous condition is caused by their own weight and a brittle compression collapse.</p> <p>The case was in fact similar to that of Pavia's Civic Tower¹⁻³; it had also been standing for 800 years, but after the increase in its weight in the sixteenth century, it was in danger every day</p>	<p>(mean), while the infill was a poor conglomerate of rubble and stones bonded by a hydraulic lime mortar. Moreover, a defective superposition of the marble blocks had resulted in the vertical force acting only on a horizontal external strip of 100 mm. The already present fracturing of the marble lining of the pillars increased with the collapse of the Civic Tower, leading to an overall falling off of marble blocks. In 1989, the construction was on the verge of collapse (first pathology).^{2,3}</p>	<p>700 mm. This temporary safeguard aimed to avoid further fractures, ensure the stability of the lining and increase the strength of the core slightly during the work.</p> <p>2. Stainless steel bars AISI 410 of 16 mm diameter were applied inside 32 mm holes drilled across the pillar (<i>Fig. 1</i>). The bars were mechanically anchored in the marble blocks of the opposite linings. At one end, the bars had a special inverted cone anchor (<i>Fig. 2</i>), which worked inside the block and did not appear on the sur-</p>
--	--	---

<p>Introduction</p> <p>From the safety and technical viewpoints, concrete dams are important structures and, therefore, health monitoring of these infrastructures is a main challenge for the dam owners. Alkali-aggregate reaction (AAR) is a chemical phenomenon that may jeopardize a dam's health. As reported in the literature, an old AAR-affected dam exhibits unexpected behaviour while that is as usual during its early life time. A list of AAR-affected dams along with their structural reactions is found in the report presented by the Swiss Federal Office for Water and Geology (FOWG).¹</p> <p>AAR occurrence may be identified</p>	<p>in Refs. [2] or [3]). Some of them suggested methods for mitigating the reaction damage or for developing remedial measures. In this regard, one may point to the research conducted in Refs. [4], [5] or [6]. Developing the mathematical formulations for modelling AAR's structural effects has been the main focus of some other investigations. An orthotropic model for modelling the AAR in the damaged structures is presented in Ref. [7]. A chemo-thermo-damage model capable of analysing AAR-affected concrete dams is presented in Ref. [8]. A phenomenological model having strong roots in various aspects of the reaction is discussed in Ref. [9]. In Ref. [10] a concrete model</p>	<p>chemical and mechanical phases were coupled, was proposed in Refs. [15] and [16]. The modelled arches and gravity dams using the developed constitutive model yielded acceptable results.^{15,16}</p> <p>In this study, a finite element model (FEM)-based computer program was developed for estimating the responses of AAR-affected structures. The thermal and structural states of a thin high arch dam were assessed using the developed program. The sensitivity of the analysis to the effects of contraction joints and construction stages were also investigated.</p> <p>Simulation of Alkali Aggregate Reaction</p>
---	--	---

2.8.2 Figure & Table citations in the text

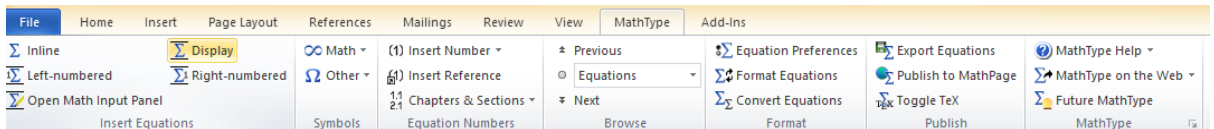
- Figures & Tables should be referred to in the text.
- 'Figure' and 'Table' should not be abbreviated when it comes at the beginning of the sentence. In between text it can be abbreviated as *Fig. 1*, *Figs. 2 and 3* and *Table 1*, *Fig. 2a and b* for cross references.
- Sample output is given below.

In Figs. 3 and 4, a series of contours are presented that show the reaction evolution over the dam body. In these diagrams, the AAR evolution status ranges from 0 to 100. As can be seen, in both the linear and nonlinear cases

stresses in most regions of the damaged dam. This may lead to the formation of crack profiles, which can jeopardize the dam's structural health. Table 1 presents briefly the extreme values

2.9 Equations

- Equations must be captured or constructed using the MathType or default Math equation construction available in Microsoft Word.



- Authors are requested NOT to paste equations as images; as mentioned above it should be an editable math equation in the manuscript.
- Numbers identifying the displayed mathematical expression should be placed in parentheses and referred to within the text as Eq. (1), Eq. (2).
- Variables should be in Italics, Times Font.

$$\xi(t, \theta) = \varepsilon^{\text{AAR}}(t) / \varepsilon_{\infty}^{\text{AAR}} = \frac{1 - \exp\left(-\frac{t}{\tau_c(\theta)}\right)}{1 + \exp\left(-\frac{1 - \tau_1(\theta, I_{\sigma}, f'_c)}{\tau_c(\theta)}\right)} \quad (1)$$

where τ_c and τ_1 are the characteristic and latency times, respectively, and are given by:

$$\tau_c(\theta) = \tau_c(\theta_0) \cdot \exp(U_c(1/\theta - 1/\theta_0)) \quad (2)$$

$$\tau_1(\theta, I_{\sigma}, f'_c) = f(I_{\sigma}, f'_c) \tau_1(\theta_0) \cdot \exp \times (U_c(1/\theta - 1/\theta_0)) \quad (3)$$

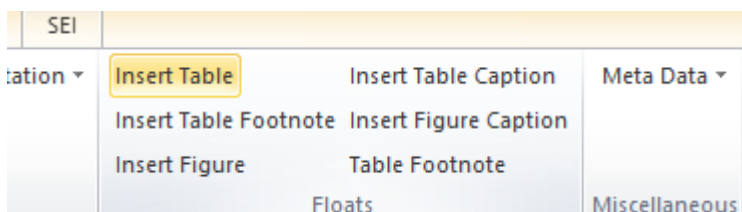
In the above equations, θ_0 is the reference temperature in which τ_{c0} and τ_{10}

where ε_0 is the internal free strains vector corresponding to the thermal variations and the AAR gel expansion. Deterioration of the elasticity modulus and tensile strength in the AAR-affected concrete is determined using Eqs. (7) and (8):

$$E(t, \theta) = E_0 [1 - (1 - \beta_E) \xi(t, \theta)] \quad (7)$$

2.10 Tables and Figures

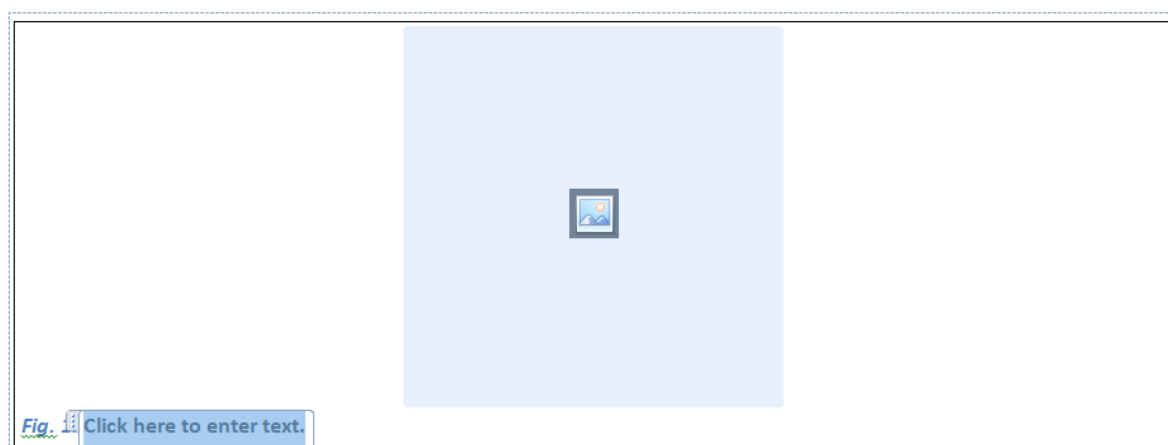
- Table can be created using the “Insert Table” option available in the “SEI” menu bar.



- Click the option “Insert Table” to have the basic format of the table inserted in the document. Next, you can fill in the date and then the number of rows and columns.

Table 1 Click here to enter text.			

- If the table is already available, please copy past it in the document. The content of the table must be in editable mode.
- Please note that all tables can also be placed at the end of the manuscript and not necessarily within the main text except for unnumbered tables.
- Use the option “Insert Figure” to insert a figure and its caption.



- Please note that the figures embedded in the manuscript are for reference purpose only. Authors are requested to submit each figure as an original high resolution file (.tif, .eps, .pdf, .xls etc).
- Please note that adding / embedding the images (from another source) within the manuscript (word document) actually compresses the original image quality and is not suitable for printing. Therefore authors are requested to submit figures separately with correct figure numbering, when you upload your paper in Manuscript Central/ScholarOne.

3. References

- References should be listed in numerical order at the end of the paper.
- Journal titles should be abbreviated according to the American Chemical Society system.
- Reference List should not include website addresses (only) or such information (e.g. as per email to author etc.). Please insert them in a separate list “Further Information” and

number them as 1. 2. and so on. If this is the case, also insert a Comment.

- Check that full and complete information is given in each reference. Example of different type of reference styling is given below:

3.1 Journal reference

[1] Perreault H, Costello CE. Level of character. *J. Mass Spectrom.* 1999; **34**(1): 184–185.

3.2 Book reference

[2] Ermans AM, Delange F, van der Velden M, Kinthaert J. Level of character. In *Human Development and the Thyroid Gland. Relation to Endemic Cretinism*, Stanbury JB, Kroc RL (eds), 4th edn, vol. 3. Plenum Press: New York, 1972; 455.

3.3 Other References

[3] Japan Road Association. *Manual for Anti-impact Structures Against Falling Rocks*. 2000 (in Japanese).

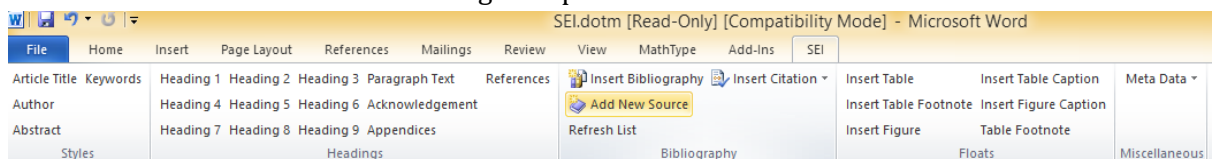
[4] Japan Society of Civil Engineers for Concrete No. 3. *Standard Specifications for Concrete Structures—2002, Structural Performance Verification*, March, 2002.

[5] Kishi N, Mikami H. An applicability of FE impact analysis on shear-failure-type RC beams with shear rebars. *Proceedings of the 4th Asia-Pacific Conference on Shock and Impact Loads on Structures*, Singapore, November, 2001.

[6] Blovsky S. *Bewehrungsmöglichkeiten mit Geokunststoffen*. PhD Thesis, T.U. Wien, Austria, 2003.

3.4 Constructing a Reference

- Author can construct a reference using the option “Add new source” under SEI menu.



- Select the type of reference and start entering the data.

The screenshot shows the 'Create Source' dialog box. At the top, the title is 'Create Source'. Below the title bar, there are two dropdown menus: 'Type of Source' set to 'Journal Article' and 'Language' set to 'Default'. Underneath, the text 'Bibliography Fields for APA Fifth Edition' is displayed. The form contains several input fields: 'Author' (with an 'Edit' button), a checkbox for 'Corporate Author', 'Title', 'Journal Name', 'Year', and 'Pages'. At the bottom left, there is a checkbox for 'Show All Bibliography Fields', a 'Tag name' field with 'Placeholder 1' entered, and 'OK' and 'Cancel' buttons.

This screenshot shows the same 'Create Source' dialog box, but with a dropdown menu open over the 'Author' field. The dropdown menu lists several options: 'Book', 'Book Section', 'Journal Article' (which is highlighted in blue), 'Article in a Periodical', 'Conference Proceedings', and 'Report'. The rest of the dialog box, including the 'Language' dropdown, input fields, and buttons, remains the same as in the previous screenshot.

Thank you for following SEI Author Guidelines and Instructions for preparing your manuscript for Structural Engineering International (SEI).

We look forward to your submission in <https://mc.manuscriptcentral.com/sei> !