The Title Goes Here with Each Initial Letter Capitalized

Nia Amelia1, a), Silmi2,b) and Diky Zakaria2, 3, c)

1Universitas Pendidikan Indonesia, Bandung, Indonesia   
 2Institut Pertanian Bogor, Bogor, Indonesia

3Institut Teknologi Bandung, Bandung, Indonesia

a) Corresponding author: niaamelia@upi.edub) silmi@upi.edu

**Abstract.** Resistance spot welding is used in the welding process of steel plates, the application is also used for the process of making baskets with stainless steel cylindrical material. Stainless steel is used in the food equipment industry product, namely stainless steel 304. Cylindrical resistance spot welding stainless steel 304 aims to determine the weldability and shear strength of the welding results on the cylinder material thickness of 2 mm. Experimental research methods by varying the welding currents 0.2 kA, 1.4 kA, and 2.1 kA. Measurement of the nugget area and HAZ using a digital microscope. The widest nugget area and HAZ were obtained at a welding current of 2.1 kA, the maximum area of ​​the nugget was 3.28 mm2 and the maximum large of ​​the HAZ was 2.67 mm2. Maximum tensile strength of 852.32 MPa results of shear test with a strong current of 2.1 kA and an increase in carrying capacity of the connection load occurs at a strong current of 2.1 kA with a peak load of 2676.28 N. Increased welding current increases weld connection due to increased carrying capacity of the load connection. Experiments carried out with variations in the three currents get good weldability.

# INTRODUCTION

Resistance spot welding is used in the welding process of steel plates, the application is also used for the process of making baskets with stainless steel cylindrical material. Stainless steel is used in the food equipment industry product, namely stainless steel 304. Cylindrical resistance spot welding stainless steel 304 aims to determine the weldability and shear strength of the welding results on the cylinder material thickness of 2 mm. Experimental research methods by varying the welding currents 0.2 kA, 1.4 kA, and 2.1 kA. Measurement of the nugget area and HAZ using a digital microscope. The widest nugget area and HAZ were obtained at a welding current of 2.1 kA, the maximum area of ​​the nugget was 3.28 mm2 and the maximum large of ​​the HAZ was 2.67 mm2. Maximum tensile strength of 852.32 MPa results of shear test with a strong current of 2.1 kA and an increase in carrying capacity of the connection load occurs at a strong current of 2.1 kA with a peak load of 2676.28 N. Increased welding current increases weld connection due to increased carrying capacity of the load connection. Experiments carried out with variations in the three currents get good weldability.

* In this template we note whether each heading is Level 1, 2, or 3 – for example, “(Second Level Heading).” This is for guidance only; your article headings will, of course, not need those notations.
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To format a paragraph, use the Microsoft Word template style: *Paragraph* or Times New Roman Font: 10 pt, Indent: First line: 0.2", Justified.

# Methods

Resistance spot welding is used in the welding process of steel plates, the application is also used for the process of making baskets with stainless steel cylindrical material. Stainless steel is used in the food equipment industry product, namely stainless steel 304. Cylindrical resistance spot welding stainless steel 304 aims to determine the weldability and shear strength of the welding results on the cylinder material thickness of 2 mm. Experimental research methods by varying the welding currents 0.2 kA, 1.4 kA, and 2.1 kA. Measurement of the nugget area and HAZ using a digital microscope. The widest nugget area and HAZ were obtained at a welding current of 2.1 kA, the maximum area of ​​the nugget was 3.28 mm2 and the maximum large of ​​the HAZ was 2.67 mm2. Maximum tensile strength of 852.32 MPa results of shear test with a strong current of 2.1 kA and an increase in carrying capacity of the connection load occurs at a strong current of 2.1 kA with a peak load of 2676.28 N. Increased welding current increases weld connection due to increased carrying capacity of the load connection. Experiments carried out with variations in the three currents get good weldability.

## Material

Here is how todisplay a pop-up window from which to select and apply the AIP Conference Proceedings template paragraph styles:

### Welding Specimens Material

As with first and second level headings, all words except prepositions and articles (see above) should appear with initial letters in uppercase [1].

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Welding specimens material (Heading 4)

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# results and discussion

Here we provide some basic advice for formatting your mathematics, but we do not attempt to define detailed styles or specifications for mathematical typesetting. You should use the standard styles, symbols, and conventions for the field/discipline you are writing about.

## Results

From Word 2007 onwards, Microsoft Word provides two “Equation Editors,” which, for ease of reference, we’ll call “Old Style Equations” and “New Style Equations.”

* **“New Style Equations”** (Word 2007 onwards): With Word 2007 Microsoft introduced a powerful new built-in Equation Editor that enables input of sophisticated mathematics typeset (usually) in the Cambria Math font. You access it from the Insert menu.
* **“Old Style Equations”** (Word 97–Word 2003): For versions of Microsoft Word between Word 97 and Word 2003, mathematical input was created by an add-in: Inserting and editing a “Microsoft Equation 3.0 object,” typically by *Insert*  *Object* and selecting “Microsoft Equation 3.0.”

Newer versions of Microsoft Word (Word 2007 and onwards) still support the original “Old Style Equations” method of creating mathematics by inserting an equation via *Insert*  *Object* and selecting “Microsoft Equation 3.0.” Whatever method is used, please make sure the equation is clear and readable.

Equations should be centered with equation numbers on the right-hand side (flush right). Achieving a pleasing layout of equations can be tricky in Microsoft Word, so here are some tips. You can either:

1. Copy, paste, and edit the sample equation provided (recommended), or
2. Manually insert an equation and equation number

To use this “Old Style Equation” as a “template,” highlight the entire line, then use cut and paste to the new location. Note that the equation number will automatically update (increment).

|  |  |
| --- | --- |
|  | (1) |

Equations should be centered with equation numbers on the right-hand side (flush right). Achieving a pleasing layout of equations can be tricky in Microsoft Word, so here are some tips.

# conclusion

Figures, tables, and equations must be inserted in the text and may not be grouped at the end of the paper. Important: A miscount of figures, tables, or equations may result in revisions. Please double check the numbering of these elements before you submit your paper to your proceedings editor (See Fig. 1).

|  |  |
| --- | --- |
|  |  |
| (a) | (b) |

**Figure 1.** To format a figure caption

Figure 1 show cite all figures in the text in consecutive order. The word “Figure” should be spelled out if it is the first word of the sentence and abbreviated as “Fig.” elsewhere in the text. Place the figures as close as possible to their first mention in the text at the top or bottom of the page with the figure caption positioned below, all centered. Figures must be inserted in the text and may not follow the Reference section.

Due to the wide range and complexity of tables, we simply offer an example for guidance. Please follow the style for table (and figure) captions.

|  |  |  |
| --- | --- | --- |
| **TABLE 1.** To format a table caption | | |
| **Column Header Goes Here** | **Column Header Goes Here** | **Column Header Goes Here** |
| Row Name Here | x | x |
| Row Name Here | x | x |
| Row Name Here | x | x |

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| --- | --- | --- |
| **TABLE 1.** Cont. | | |
| **Column Header Goes Here** | **Column Header Goes Here** | **Column Header Goes Here** |
| Row Name Here | x | x |
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| Row Name Here | x | x |

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# Acknowledgments

If desired, in this section we welcome you to include thank your comments for those who have supported your research. Font should be Times New Roman, 10 pt.

# References

1. M. P. Brown and K. Austin, *Judul Buku* (Penerbit, Kota, 2005), pp. 25–30.
2. M. P. Brown and K. Austin, Nama Jurnal **volume**, 2503–2504 (2004).
3. R. T. Wang, “Judul Buku,” in *Classic Physiques*, edited by R. B. Hamil (Penerbit, Kota, 1999), pp. 212–213.
4. C. D. Smith and E. F. Jones, “Load-cycling in cubic press,” in *Shock Compression of Condensed Matter-2001*, AIP Conference Proceedings 620, edited by M. D. Furnish *et al*. (AIP Publishing, Melville, NY, 2002), pp. 651–654.
5. B. R. Jackson and T. Pitman, U.S. Patent No. 6,345,224 (8 July 2004)
6. D. L. Davids, “Judul Skripsi, Tesis, Disertasi,” Ph.D. thesis, Nama Universitas, 1998.
7. R. C. Mikkelson (private communication).

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