

# The engsymbols package\*

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December 2, 2014

## 1 Introduction

This document describes the `engsymbols` package, a collection of macros to facilitate the writing of common engineering symbols.

The following packages are prerequisites:

- `siunitx`

This package follows the conventions specified by ISO standards of typesetting mathematics [1].

## 2 Implementation

### 2.1 Special individual symbols

**volume** This macro produces a calligraphic V to indicate volume, as  $\mathcal{V}$ . This is usually done to avoid confusion with velocity.

```
1 \newcommand{\volume}{\mathcal{V}}
```

**diffd** This macro produces the differential d operator, as in  $dx$ . The definition is fairly complex because it tries to do an optimal spacing, as described by [1].

```
2 \newcommand{\diffd}{\@ifnextchar{\DIfF}{\DIfF~{}}}  
3 \def\DIfF~#1{%  
4   \mathop{\mathrm{\mathstrut d}}%  
5     \nolimits~{#1}\gobblespace}  
6 \def\gobblespace{%  
7   \futurelet\diffarg\ospace}  
8 \def\ospace{%  
9   \let\DiffSpace~!  
10  \ifx\diffarg<%  
11    \let\DiffSpace\relax
```

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\*This document corresponds to `engsymbols` v0.1, dated 2014/12/02.

```

12 \else
13     \ifx\diffarg[%
14         \let\DiffSpace\relax
15     \else
16         \ifx\diffarg\{%
17             \let\DiffSpace\relax
18             \fi\fi\fi\DiffSpace}

```

## 2.2 Basic operations

`ped` This macro by [1] typesets the argument in math roman font, to indicate a object. Italic subscripts should be used only to refer to another variables, for example,  $c_P$  is the specific heat obtained by maintaining the pressure, a physical parameter, fixes. By contrast,  $h_L$  is the liquid enthalpy; liquid is not a variable. The command `\ap` does the same to superscripts, like  $T^I$  for the interface temperature.

```

19 \newcommand{\ped}[1]{\ensuremath{\mathrm{#1}}}
20 \newcommand{\ap}[1]{\ensuremath{\mathrm{#1}}}

```

## References

- [1] Claudio Beccari. Typesetting mathematics for science and technology according to iso 31/xi. *TUGboat*, 18(1):39–48, 1997.