siunitx-eng — set of engineering macros for siunitx text*

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1 Introduction

The package siunitx provides a nice set of commands for typesetting units; for exemple, to produce 1 kg, one would type `\SI{1}{\kilo\gram}`. What this extension siunitx-eng does is to use the packages `\DeclareSIUnit` macro to create units with meaningful, consistent names. The above example would be typeset with `\SI{1}{\massunit}` (to yield the identical 1 kg).

The advantages are twofold:

1. One does not have to type all slashes, and remembering all the syntax; a single english name will produce the desired output
2. We assure the units are consistent in the text (provided, of course, the data was obtaind in a consistent manner.

2 Implementation

<*package>

```
% basic configuration: use / for division, typeset in the current font, and group the digits
\sisetup{
per-mode=symbol,
detect-all,
group-digits=integer}


% declare some common non-SI units
\DeclareSIUnit{\poise}{P}
\DeclareSIUnit{\surfacepoise}{sP}
\DeclareSIUnit{\atm}{atm}

```

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```
% basic units
\DeclareSIUnit{\massunit}{\kg}
\DeclareSIUnit{\molarunit}{\kilo\mole}
\DeclareSIUnit{\timeunit}{\second}
\DeclareSIUnit{\lengthunit}{\meter}
\DeclareSIUnit{\energyunit}{\joule}
\DeclareSIUnit{\temperatureunit}{\kelvin}
\DeclareSIUnit{\pressureunit}{\Pa}
\DeclareSIUnit{\forceunit}{\newton}
\DeclareSIUnit{\powerunit}{\watt}


% immediate derived units
\DeclareSIUnit{\areaunit}{\square\lengthunit}
\DeclareSIUnit{\volumeunit}{\cubic\lengthunit}
\DeclareSIUnit{\molarmassunit}{\kg\per\molarunit}

% mass-based units
\DeclareSIUnit{\densityunit}{\massunit\per\volumeunit}
\DeclareSIUnit{\massflowrateunit}{\massunit\per\timeunit}
\DeclareSIUnit{\massfluxunit}{\massflowrateunit\per\areaunit}

% energy units
\DeclareSIUnit{\specificenergyunit}{\energyunit\per\massunit}
\DeclareSIUnit{\specificheatunit}{\energyunit\per\massunit\per\temperatureunit}
\DeclareSIUnit{\specificentropyunit}{\specificheatunit}

% molar-based units
\DeclareSIUnit{\concentrationunit}{\molarunit\per\volumeunit}

% energy units in molar base
\DeclareSIUnit{\molarspecificenergyunit}{\energyunit\per\molarunit}
\DeclareSIUnit{\molarspecificheatunit}{\energyunit\per\molarunit\per\temperatureunit}
\DeclareSIUnit{\molarspecificentropyunit}{\molarspecificheatunit}

% properties
\DeclareSIUnit{\diffusivityunit}{\areaunit\per\timeunit}
\DeclareSIUnit{\viscosityunit}{\pressureunit\timeunit}
\DeclareSIUnit{\interfacialtensionunit}{\forceunit\per\lengthunit}
\DeclareSIUnit{\thermalcondutivityunit}{\powerunit\per\lengthunit\per\temperatureunit}

% other
\DeclareSIUnit{\velocityunit}{\lengthunit\per\timeunit}
```

</package>