

STRUCTWARE[®]
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Program Documentation

for

CONVERT

Metric Conversion Utility

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JOB TITLE Convert Program Documentation ORIGINATOR RM DATE 4/9/2004

JOB No. _____ CALCULATION No. _____ REVIEWER _____ DATE _____

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INTRODUCTION

Convert may be used to convert parameters between english and metric units.

The graphical interface is shown in Section B. A verification calculation is included in Section C. Additional information is contained in the following files installed in the program directory.

License.txt - The license agreement contains the terms and conditions for use of this program and documentation.

Readme.txt – The installation instructions, copyright notices and version history is contained in this file.

The following step is recommended for users new to the program.

1. To learn how to use the program, read the "About Convert" selection from the help menu.

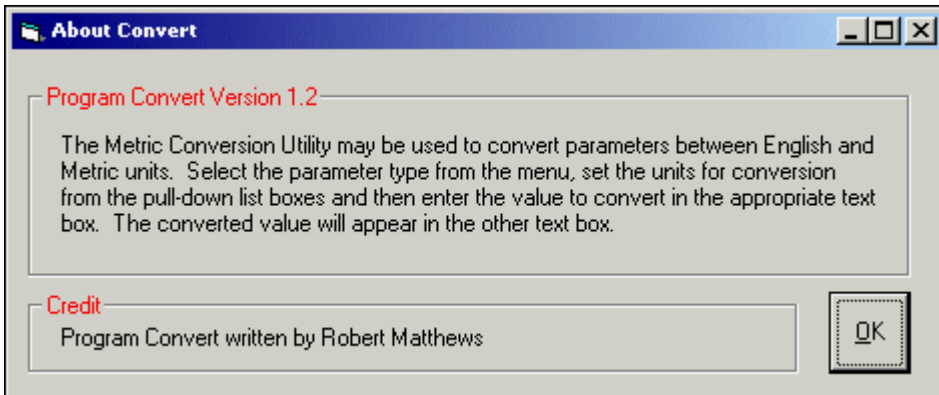
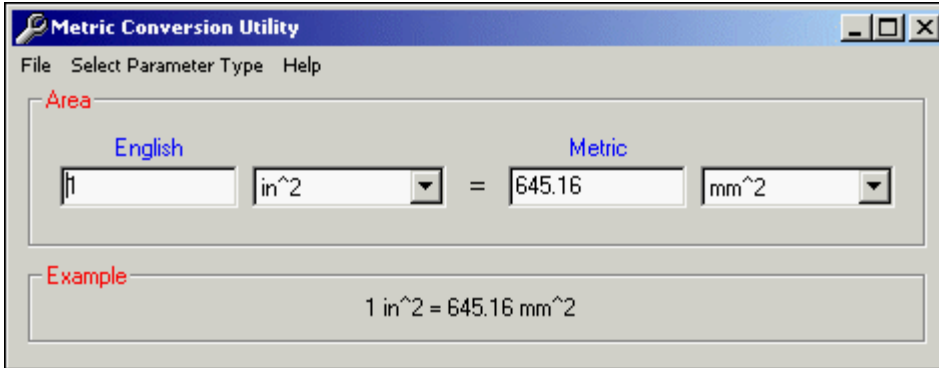
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GRAPHICAL INTERFACE



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VERIFICATION CALCULATION

Program CONVERT is validated by comparing the output values with a recognized metric conversion guide. The table below summarizes the comparison. The first column lists the parameter type. The second column lists the value input into CONVERT. The third column lists the value output from CONVERT. The fourth column lists the value from the ¹NIST Guide.

PARAMETER TYPE	ENGLISH	METRIC (CONVERT)	METRIC (¹ NIST)
Length	1 inch	0.0254 m	0.0254
	1 foot	0.3048 m	0.3048
	1 yard	0.9144 m	0.9144
	1 mile	1609.344 m	1609.344
Area	1 in ²	6.4516E-4 m ²	6.4516E-4
	1 ft ²	0.09290303 m ²	0.09290304
	1 yd ²	0.8361273 m ²	0.8361274
Volume	1 in ³	1.638706E-5 m ³	1.638706E-5
	1 ft ³	0.02831684 m ³	0.02831685
	1 yd ³	0.7645547 m ³	0.7645549
Moment of Inertia	1 in ⁴	4.162314E-7 m ⁴	4.162314E-7
	1 ft ⁴	8.630974E-3 m ⁴	8.630975E-3
Weight/Force	1 lb	4.448222 N	4.448222
	1 kip	4.448222 kN	4.448222
	1 lb/in	175.1268 N/m	175.1268
	1 lb/ft	14.59389 N/m	14.5939
Pressure	1 lb/in ²	6894.757 Pa	6894.757
	1 lb/ft ²	47.88022 Pa	47.88026
Density	1 lb/in ³	27679.9 kg/m ³	27679.9
	1 lb/ft ³	16.01846 kg/m ³	16.01846
	1 lb/yd ³	0.5931802 kg/m ³	0.5932764
Moment	1 in-lb	0.1129848 N-m	0.1129848
	1 ft-lb	1.355818 N-m	1.355818
Gravity	32.2 ft/s ²	9.807 m/s ²	9.80665
Temperature	212° F	100° C	100

Notes:

1. Values are from the NIST Guide for the Use of the International System of Units (SI), Appendix B, at <http://physics.nist.gov/Pubs/SP811/appenB.html>