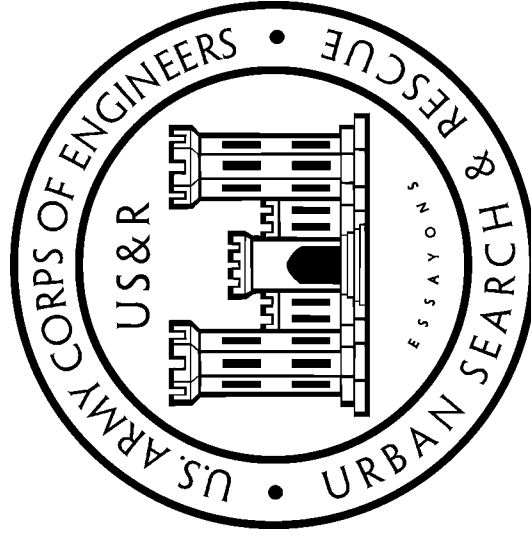


U.S. Army Corps of Engineers  
Urban Search and Rescue Program

Urban Search & Rescue

## SHORING OPERATIONS GUIDE

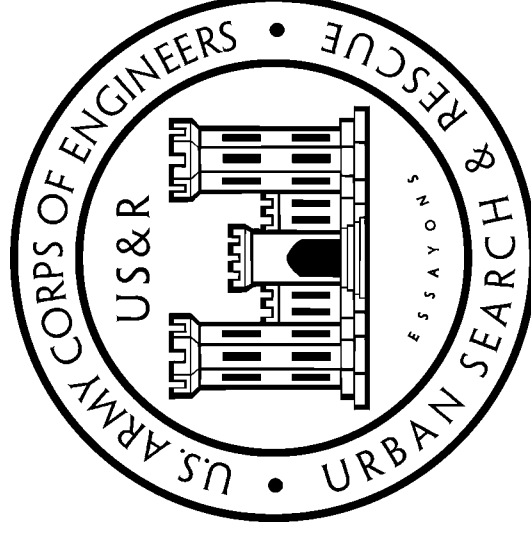


2nd Edition  
February 2009

U.S. Army Corps of Engineers  
Urban Search and Rescue Program

Urban Search & Rescue

## SHORING OPERATIONS GUIDE



2nd Edition  
February 2009

**US&R SHORING**  
**OPERATIONS GUIDE (SOG)**

**FOREWORD**

This Shoring Operations Guide (SOG) was developed by the FEMA US&R Structures Sub-group, in cooperation with U.S. Army Corps of Engineers, as a working reference tool for US&R Rescue Team Personnel during response operations. It condenses information provided during the initial training, and was designed to be expanded to incorporate new information.

In this SOG, Sections 1 through 4 are identical to the same sections of the larger and more comprehensive USACE Structures Specialist Field Operations Guide (FOG). That FOG has additional Operational Check Lists, Engineering Data, Tables and Forms that make it a more useful Reference for the Structures Specialist.

Users are encouraged to suggest changes that can be incorporated into future editions of this SOG. Suggestions should be made to:

U.S. Army Corps of Engineers  
Readiness Support Center  
Urban Search and Rescue Program  
ATTN: CESP-D-DE (US&R)

For mailing and e-mail address see USACE Link on:

[www.disasterengineer.org](http://www.disasterengineer.org)

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**ENGLISH TO METRIC**To convert**Lengths**

inches  
inches  
inches  
feet  
yards  
yards  
miles  
**Surfaces**  
square inches  
square feet  
square yards  
square miles  
acres

into

mm  
cm  
meters  
meters  
km  
meters  
km  
  
cm<sup>2</sup>  
m<sup>2</sup>  
m<sup>2</sup>  
km<sup>2</sup>  
hectares

multiply by

25.4  
2.54  
0.0254  
0.3048  
914.4  
0.9144  
1.609  
  
6.452  
0.0929  
0.8361  
2.59  
0.4047  
  
16.387  
0.016387  
0.028317  
28.317  
0.7646  
29.57  
0.003785  
3.785  
5.0  
15.0  
30.0  
0.24  
0.47  
0.95  
  
0.0648  
28.35  
0.02835  
0.4536  
0.000454  
907.2  
0.9072  
1016.0  
1.0160

**Weights**

grams  
ounces  
ounces  
pounds  
pounds  
tons (U.S.A.)  
tons (U.S.A.)  
tons (long)  
tons (long)

**Weights**

grams  
grams  
kg  
kg  
tons (metric)  
kg  
tons (metric)  
kg  
tons (metric)

**ENGLISH TO METRIC**To convert**Lengths**

inches  
inches  
inches  
feet  
yards  
yards  
miles  
**Surfaces**  
square inches  
square feet  
square yards  
square miles  
acres

into

mm  
cm  
meters  
meters  
km  
meters  
km  
  
cm<sup>2</sup>  
m<sup>2</sup>  
m<sup>2</sup>  
km<sup>2</sup>  
hectares

multiply by

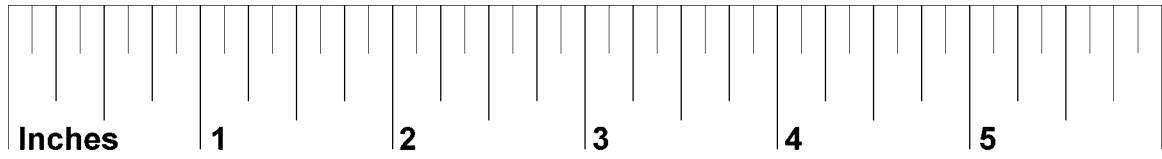
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**Weights**

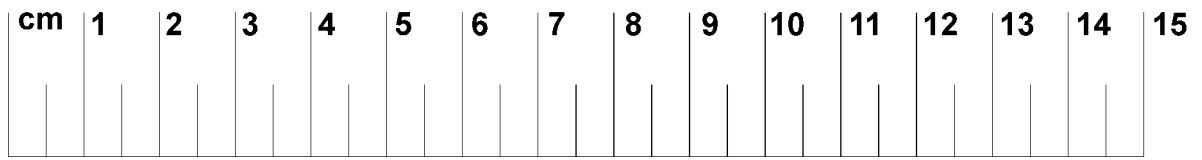
grams  
ounces  
ounces  
pounds  
pounds  
tons (U.S.A.)  
tons (U.S.A.)  
tons (long)  
tons (long)

**Weights**

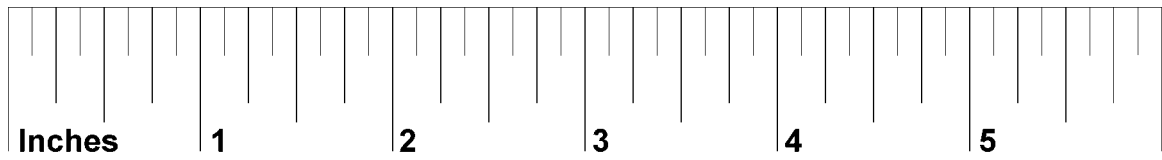
grams  
grams  
kg  
kg  
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kg  
tons (metric)  
kg  
tons (metric)



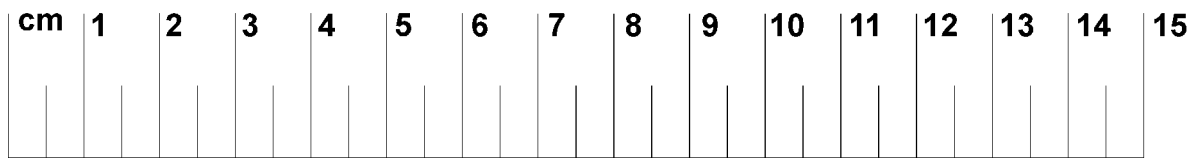
English



Metric



English



Metric