THE CONSTRUCTION TRADES

Here are the metric units that will be used by the construction trades. The term "length" includes all linear measurements--length, width, height, thickness, diameter, and circumference.

	Quantity	Unit	Symbol
Surveying	length	kilometer, meter	km, m
	area	square kilometer hectare (10 000 m^2) square meter	km^2 ha m^2
	plane angle	degree (non-metric) minute (non-metric) second (non-metric)	° ' "
Excavating	length	meter, millimeter	m, mm
	volume	cubic meter	m^3
Trucking	distance	kilometer	km
	volume	cubic meter	m^3
	mass	metric ton (1000 kg)	t
Paving	length	meter, millimeter	m, mm
	area	square meter	m^2
Concrete	length	meter, millimeter	m, mm
	area	square meter	m^2
	volume	cubic meter	m^3
	temperature	degree Celsius	°C
	water capacity	liter (1000 cm^3)	L
	mass (weight)	kilogram, gram	kg, g
	cross-sectional area	square millimeter	mm^2

$10+ BILLION IN METRIC

So much federal metric work is under way that estimating the total has become difficult. Virtually all agencies have some metric projects in the design stage or beyond. More and more are moving aggressively as they find that metrication is readily achievable.

- The Army Corps of Engineers expects to have all of its *Guidespecs* converted by this fall and has formed a Senior Executive Service committee to implement metric in all Corps programs. A number of metric pilot projects are under way and many more are in planning.
- All new GSA design work will be in metric after this October. The agency recently completed construction of a metric-based pilot project in Denver. It came in under budget and there were no appreciable metric-related problems in either the design or construction stages.
- The Federal Highway Administration is maintaining its schedule for the metrication of highway construction by October 1996. States are preparing for the change to metric now, and many have pilot projects under way. Annual federal highway outlays are about $16 billion; these funds will stimulate billions more in state and local metric construction dollars.
- Other federal agencies hard at work on conversion include the Air Force, the Navy, NASA, the Smithsonian Institution, and the Departments of Veterans Affairs, Energy, Health and Human Services, Commerce, Interior, and Agriculture.

Virtually all federal construction--about $40 billion annually--will be designed and built in metric by late in this decade. Spurred by federal grant programs, state and municipal construction also may be predominantly metric by that time.

The private sector is doing its share. Codes, standards, trade, and professional organizations are converting their remaining non-metric documents and beginning to prepare their constituents for the change to metric. Product manufacturers are beginning to convert their product literature.

You can help speed the process by promoting metric in the organizations to which you belong. **Remember, English is the international language of business and metric is the international language of measurement.**

	Quantity	Unit	Symbol
Masonry	length	meter, millimeter	m, mm
	area	square meter	m^2
	mortar volume	cubic meter	m^3
Steel	length	meter, millimeter	m, mm
	mass	metric ton (1000 kg) kilogram, gram	t kg, g
Carpentry	length	meter, millimeter	m, mm
Plastering	length	meter, millimeter	m, mm
	area	square meter	m^2
	water capacity	liter (1000 cm^3)	L
Glazing	length	meter, millimeter	m, mm
	area	square meter	m^2
Painting	length	meter, millimeter	m, mm
	area	square meter	m^2
	capacity	liter (1000 cm^3) milliliter (cm^3)	L mL
Roofing	length	meter, millimeter	m, mm
	area	square meter	m^2
	slope	millimeter/meter	mm/m
Plumbing	length	meter, millimeter	m, mm
	mass	kilogram, gram	kg, g
	capacity	liter (1000 cm^3)	L
	pressure	kilopascal	kPa
Drainage	length	meter, millimeter	m, mm
	area	hectare (10 000 m^2) square meter	ha m^2
	volume	cubic meter	m^3
	slope	millimeter/meter	mm/m

	Quantity	Unit	Symbol
HVAC	length	meter, millimeter	m, mm
	volume	cubic meter	m^3
	capacity	liter (1000 cm^3)	L
	airflow	meter/second	m/s
	volume flow	cubic meter/second liter/second	m^3/s L/s
	temperature	degree Celsius	°C
	force	newton, kilonewton	N, kN
	pressure	kilopascal	kPa
	energy, work	kilojoule, megajoule	kJ, MJ
	rate of heat flow	watt, kilowatt	W, kW
Electrical	length	meter, millimeter	m, mm
	frequency	hertz	Hz
	power	watt, kilowatt	W, kW
	energy	megajoule kilowatt hour	MJ kWh
	electric current	ampere	A
	electric potential	volt, kilovolt	V, kV
	resistance	ohm	Ω

Metric in Construction is the newsletter of the Construction Metrication Council of the
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Metric in Construction is a bimonthly newsletter published by the Construction Metrication Council to inform the building community about metrication in U.S. construction. The Construction Metrication Council was created by the National Institute of Building Sciences to provide industry-wide, public and private sector support for the metrication of federal construction and to promote the adoption and use of the metric system of measurement as a means of increasing the international competitiveness, productivity, and quality of the U.S. construction industry.

The National Institute of Building Sciences is a nonprofit, nongovernmental organization authorized by Congress to serve as an authoritative source on issues of building science and technology.

The Council is an outgrowth of the Construction Subcommittee of the Metrication Operating Committee of the federal Interagency Council on Metric Policy. The Construction Subcommittee was formed in 1988 to further the objectives of the 1975 *Metric Conversion Act*, as amended by the 1988 *Omnibus Trade and Competitiveness Act*. To foster effective private sector participation, the activities of the subcommittee were transferred to the Council in April 1992.

Membership in the Council is open to all public and private organizations and individuals with a substantial interest in and commitment to the Council's purposes. The Council meets monthly in Washington, D.C.; publishes the *Metric Guide for Federal Construction* and this bimonthly newsletter; and coordinates a variety of industry metrication task groups. For membership information, call the Council at the above phone number.