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PRINCIPLES OF CONVERSION

SRI LANKA STANDARDS INSTITUTION

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SRI LANKA STANDARD
FOR PRINCIPLES OF CONVERSION

FOREWORD

This Sri Lanka Standard was prepared under the authority of the Metric Divisional Committee of the Sri Lanka Standards Institution and was authorised for adoption and publication by the Council of the Institution on 1971-10-27.

The Government has decided to adopt the Metric System of Weights and Measures in Sri Lanka. With this decision it became necessary to prepare a publication giving Principles of Conversion from one system of units to another, particularly from the Imperial System to the Metric System (SI) and vice versa. This Sri Lanka Standard sets out to do this and is intended for the guidance of engineers, designers and technologists.

In preparing this Standard reference has been made to the following publications :

IS 787 - 1956	:	Guide for Inter-Conversion of Values from one system of units to another.
BS 1957 - 1953	:	Presentation of Numerical Values.
ASTM E29 - 50	:	Recommended Practice for Designating Significant Places in Specified values.

1 SCOPE

This standard is intended to serve as a guide in converting numerical values of physical quantities from one system of units of measurement to another system of units.

2 TERMINOLOGY

For the purpose of this standard the following definitions shall apply :

2.1 **Significant Figures** - A value is said to have as many significant figures as there are number of figures obtained by counting to the right from the first non-zero figure on the left.

2.2 Significant Part - It consists of the significant digits occurring in the value written down as an integral number without a decimal point and without the non-significant zeros.

Examples :

Value	Significant Figures	Significant Part
0.621 371	6	621 371
0.042 140	5	42 140
1550.00	6	155 000
$6.102\ 37 \times 10^4$	6	610 237
2.00	3	200
0.000 001	1	1
2 000.000 001	10	2 000 000 001

2.3 Order of Magnitude - Two numbers are referred to in this standard as having the same order of magnitude if the greater one is not more than ten times the smaller.

Examples :

The following pairs of values are of the same order of magnitude :

3.2 and 32
2.54 and 12
1.69 and 0.497 2
1 000 and 101.35
1 756 049 and 15.2×10^6

3 CONVERSION FACTORS

3.1 Principal Conversion Factors

Principal conversion factors include key (fundamental) factors and derived factors which are frequently needed for conversion from one system of units to another. The key (fundamental) factors constitute a set of factors containing the information which is necessary and sufficient for the derivation of the other factors. The key (fundamental) factors given in Table 1 shall be used in the inter-conversion of commonly occuring quantities from one system of units to another.