

# Terminology Committee

of the International Academy for Production Engineering (CIRP)

The Terminology Committee carries the responsibility for publication of the CIRP dictionaries on Advanced Manufacturing Engineering and the brand new Encyclopedia of Production Engineering (CIRPedia).

They cover definitions and terminology for manufacturing processes, machines, tooling, materials and systems formulated by the Scientific Committees (STC).

## Short History

The CIRP headquarters in Paris issued a trilingual dictionary of Production Engineering from 1962 to 1984 in English, French and German with volumes as follows:

### Former multi-lingual Dictionaries (English-French-German)

Volume	Title	Further Editions
1	Forging, Drop Forging	1N <sup>1</sup> , 1R <sup>2</sup> , CN <sup>3</sup>
2	Grinding, Surface Roughness	CN
3	Sheet Metal Forming	CN
4	Fundamental Terms of Cutting	CN
5	Cold Extrusion and Upsetting	CN
6	Planning, Slotting, Broaching, Turning	CN
7	Drilling, Countersinking/Boring, Reaming, Tapping	CN
8	Milling, Saving, Gear Manufacturing	CN
9	Electrochemical, Electro-Discharge, Electron Beam Laser, Photon Beam Laser, Chemical Machining	CN

Not surprisingly, terms are sometimes interpreted differently in their conceptual contents in the three languages and thus in the corresponding linguistic areas. The dictionary took this into account by including both definitions of terms and, in some cases descriptive illustrations. In this way, CIRP realized one of its fundamental aims, i.e. enable correct translations of production engineering terms and thus contribute to a clear, unmistakable professional communication in three languages. Later, volume

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<sup>1</sup> Danish, Finnish, Norwegian and Swedish  
<sup>2</sup> Italian, Spanish and Portuguese  
<sup>3</sup> Chinese

1 was extended to Danish, Finnish, Norwegian and Swedish (volume 1N), as well as to Italian, Spanish and Portuguese (volume 1R). Additionally, Volumes 1 to 9 were extended to Chinese some time ago.

Presently, manufacturing/production engineering is undergoing an enormous world-wide innovation process. New technologies have made their entry; manufacturing strategies are changing; global production networks are established. International co-operation is quickly developing thereby increasing the importance of communication and thus the need for unified technical terminology.

At the same time, the technical terminology experiences significant expansion. From 1997, CIRP has been taking into account these developments by introducing a second edition of its *Dictionary of Production Engineering* in English, French and German. This edition is characterized by a considerable increase of the number of terms and a new topical structure. Definitions are provided now for all terms; illustrations are added in some cases for better understanding.

Four new editions of the multi-lingual Dictionaries (English-French-German) are available right now as it are (more information see below):

<b>Volume</b>	<b>Title</b>
I	Forming (Book 1 and 2)
II	Material Removal Processes
III	Sheet Metal Forming
IV	Assembly

Extensions to other languages like Turkish or Italian are in preparation.

## **Encyclopedia of Production Engineering (CIRPedia)**

Starting in 2007 the Terminology committee decided to strike a totally new path as an answer to the internet-age: An online platform is going to be launched in 2012 for providing authoritative, exhaustive, fast and easy access to terms, definitions and a whole set of information in the field of production engineering (see <http://referencelive.springer.com/cirp>). The Encyclopedia of Production Engineering (CIRPedia) is under development and represents the natural extension of the current CIRP Dictionaries of Production Engineering. This Encyclopedia consists of a list of searchable entries categorized under definitions or essays. The definitions are based on the current content of the CIRP Dictionaries of Production Engineering, with new terms being added as needed. The essays expand the basic information found in the definitions. Information for a matched entry is displayed as a web page with text, figures, tables, equations, animations, and cross-references. The commercial product made of continuously evolving editions of CIRPedia will be published by Springer, our partner in this project.

# Encyclopedia and Dictionaries on Production Engineering

## Volume I: Metal Forming 1 & 2

In 1997, the Terminology Committee produced the first dictionary in the new version. It represented the first book of a series of two on “Metal Forming”. The second book appeared in 2002. Volume I on Metal Forming 1 & 2 has been the result of the combined efforts of the Scientific Technical Committee D “Dictionary” (the former Terminology Committee) from 1989 to 1997 under the chairmanship of K. Lange and K.J. Weinmann.

Volumes I-1 and I-2 contain about 3400 terms for metal forming.



### Volume I: Metal Forming 1 German, English and French

General Terms of Metal Forming  
Hot and Die Forging  
Cold and Warm Forging  
Sheet Metal Working

C.I.R.P. Office (Ed.)  
1997, XXII, 369 pages  
ISBN 978-3-540-60863-9

Price: EUR (€) 234,33



### Volume I: Metal Forming 2 German, English and French

Rolling  
Drawing  
Extrusion

C.I.R.P. Office (Ed.)  
2002, XXII, 415 pages  
Hardcover: ISBN 978-3-540-61889-8  
Softcover: ISBN 978-3-642-08280-1

Price: EUR (€) 234,33

## Volume II: Material Removal Processes

Volume II on “Material Removal Processes” is the result of the combined efforts of the Scientific Technical Committee D “Dictionary” (the former Terminology Committee) from 1995 to 2003 under the chairmanship of K. Lange, K.J. Weinmann and L. Mathieu.

It deals with the terminology of metal working in German, English and French and contains terms and definitions of the most important cutting processes of surface working (turning, drilling, milling, planning, slotting, broaching), abrasive processes (grinding, polishing, honing, lapping) and physical processes (erosion, laser beam removal, electron and ion beam machining, etc). Furthermore, the corresponding tools, machines and processes are described, complemented by general terms and definitions of production engineering and physical fundamentals. The last chapter deals with the structure and properties of surfaces and the effects of machining on the surface quality.



### Volume II: Material Removal Processes German, English and French

Cutting Processes  
Abrasive Processes  
Physical Processes  
Surfaces Processes

C.I.R.P. Office (Ed.)  
2004, XVIII, 573 pages  
ISBN 978-3-540-20540-1

Price: EUR (€) 264,00

## Volume III: Manufacturing Systems

Volume III on “Manufacturing Systems” is the result of the combined efforts of the Scientific Technical Committee D “Dictionary” (the former Terminology Committee) from 1999 to 2004 under the chairmanship of K.J. Weinmann and L. Mathieu. This volume on “Manufacturing Systems” addresses a central part in manufacturing/ production engineering, namely the “organizations in the manufacturing industry in which production is created“. The volume not only deals with the technical details of parts manufacture and assembly, and the corresponding machinery and equipment but also considers other issues involved. This includes the functioning of these organizations: the handling and flow of materials in production, the organization, planning and control of the work to be done in the system as well as quality management and the economical aspects of production such as investments, cost, capacity, time, etc.



## **Volume IV: Manufacturing Systems** German, English and French

Fundamental terms of Manufacturing  
Machining Systems  
Machine Peripherals  
Information and Communication Systems  
Material Flow System  
Production Planning  
Production Optimization

C.I.R.P. Office (Ed.)  
2004, XXIV, 254 pages  
ISBN 978-3-540-20555-5

Price: EUR (€) 260,30

## **Volume IV: Assembly**

Volume IV on “Assembly” is the result of the combined efforts of the Terminology Committee from 2004 to 2011 under the chairmanship of G. Reinhart. The current volume IV on “Assembly” addresses a central part in production engineering, namely the organizations in the manufacturing industry in which the product is finished or “the gateway to the customer”. During assembly all the mistakes being made upstream e.g. by the design department, the machine shop or logistics may hinder the assembly operations. With more than 1,000 terms the volume not only deals with the technical details of assembly and its corresponding machinery and equipment but also considers relevant issues involved in planning, developing and deploying assembly systems. The topics include; the operation of those organizations; the handling and flow of materials in production, the organization, planning and control of the work to be done in the system as well as quality management and the economical aspects of production such as investments, cost, capacity, time, etc.



## Volume IV: Assembly

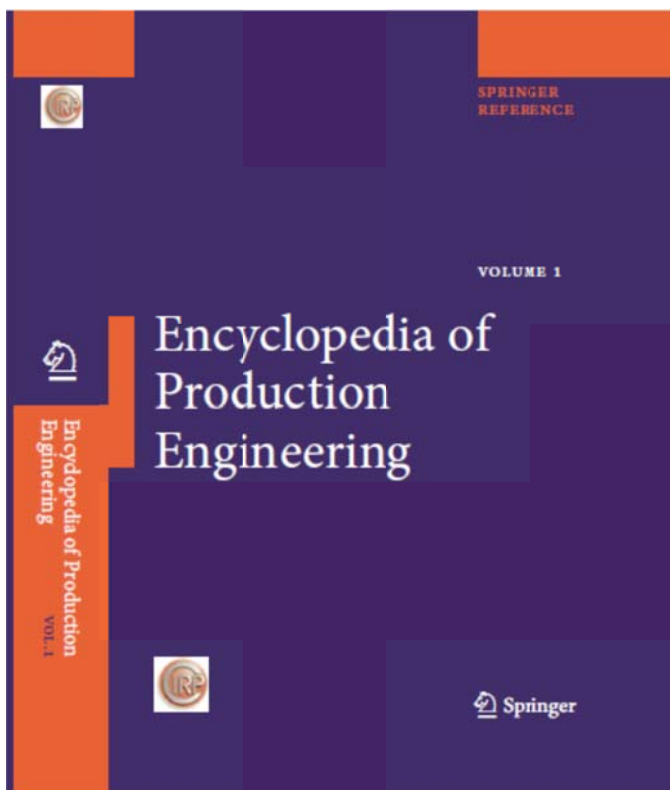
German, English and French

General Terms  
Assembly System  
Assembly Process  
Assembly Organization  
Assembly Planning  
Assembly Operation

C.I.R.P. Office (Ed.)  
2012, XVIII, 520 pages  
ISBN 978-3-642-12006-0

Price: EUR (€) 245,03

The CIRP Terminology Committee has also two other new dictionaries under development, dictionary on Geometrical Measurement and dictionary on Design.



Gunther Reinhart  
Terminology Committee Chairman  
2012

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### Note:

A special 30% discount for CIRP Members is agreed (please add the mention: *CIRP-Member-Order*)

Ref: C.I.R.P. (Ed)

Dictionary of Production Engineering – Vol. x and ISBN 978-3-nnn-mmmmm-k