

Schiffbau – Informationsverarbeitung
Numerische Steuerung von Maschinen
 ESSI-Format
 Identisch mit ISO 6582 Ausgabe 1983

DIN
ISO 6582

Shipbuilding; Information processing; Numerical control of machines;
 ESSI format; Identical with ISO 6582 edition 1983

Die Internationale Norm ISO 6582, 1. Ausgabe, 1983-04-01, „Shipbuilding – Numerical control of machines – ESSI format“ ist unverändert in diese Deutsche Norm übernommen worden.

Nationales Vorwort

In dieser Norm ist die vom ISO/TC 8/SC 15¹⁾ bearbeitete Internationale Norm ISO 6582 – 1983, unverändert wiedergegeben. Diese Internationale Norm wurde unter Mitwirkung des Arbeitsausschusses HNA-G2 „Rechneranwendung“ im Normenausschuß Schiffbau (HNA) im DIN erarbeitet.

Zusammen mit den Normen

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| DIN ISO 7460 | Schiffbau – Informationsverarbeitung; Linienrisse; Bezeichnung der geometrischen Information; Identisch mit ISO 7460 Ausgabe 1983 |
| DIN ISO 7461 | Schiffbau – Informationsverarbeitung; Linienrisse; Numerische Darstellung der Schiffskörper-Geometrie; Identisch mit ISO 7461 Ausgabe 1984 |
| DIN ISO 7462 | Schiffbau – Informationsverarbeitung; Hauptabmessungen von Schiffen; Begriffe für Rechneranwendung; Identisch mit ISO 7462 Ausgabe 1985 |
| DIN ISO 7838 | Schiffbau – Informationsverarbeitung; Linienrisse; Datenformate und -organisation; Identisch mit ISO 7838 Ausgabe 1984 |
| DIN ISO 8193 | Schiffbau – Informationsverarbeitung; Außenhautplatten; Beschreibungsdaten; Identisch mit ISO 8193 Ausgabe 1984 |

und den Norm-Entwürfen

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| DIN ISO 5572 ²⁾ | Schiffbau – Informationsverarbeitung; Ausrüstungs- und Bauteile-Benummerung; Identisch mit ISO/DIS 5572 Ausgabe 1985 |
| DIN ISO 7463 ²⁾ | Schiffbau – Informationsverarbeitung; Schiffbauliche Symbole für Rechneranwendung; Identisch mit ISO/DIS 7463 Ausgabe 1985 |
| DIN ISO 8277 ²⁾ | Schiffbau – Informationsverarbeitung; Rohrleitungsbau; Informationsübertragung; Identisch mit ISO/DIS 8277 Ausgabe 1984 |

bildet diese Norm eine Normenreihe über die Informationsverarbeitung im Schiffbau mittels Anwendung von Rechnern auf der Basis von Internationalen Festlegungen durch die ISO.

Weitere diesbezügliche Internationale Festlegungen sind von ISO/TC 8/SC 15 geplant.

Da angenommen werden kann, daß Anwender dieser Norm Englisch als Fachsprache verstehen, wird der englische Originaltext veröffentlicht.

Das Präsidium des DIN hat mit Präsidialbeschluß 13/1983 festgelegt, daß DIN-Normen, deren Inhalt sich auf internationale Arbeitsergebnisse der Informationsverarbeitung gründet, unter bestimmten Bedingungen allein in englischer Sprache veröffentlicht werden dürfen. Diese Bedingungen sind für diese Norm erfüllt.

- 1) ISO – International Organization for Standardization
 TC 8 – Shipbuilding and marine structures
 SC 15 – Computer application

- 2) Die Übernahme der künftigen ISO-Normen als DIN ISO-Normen ist beabsichtigt.

Fortsetzung Seite 2 bis 11

Normenausschuß Schiffbau (HNA) im DIN Deutsches Institut für Normung e.V.

Jede Art der Vervielfältigung, auch auszugsweise, nur mit Genehmigung des DIN Deutsches Institut für Normung e.V., Berlin, gestattet.

Englische Originalfassung

Shipbuilding – Numerical control of machines – ESSI format

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6582 was developed by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*, and was circulated to the member bodies in August 1981.

It has been approved by the member bodies of the following countries:

Austria	Italy	Poland
Belgium	Japan	Portugal
Brazil	Korea, Dem. P. Rep. of	Romania
Czechoslovakia	Korea, Rep. of	Spain
Egypt, Arab Rep. of	Mexico	Sweden
Germany, F.R.	Netherlands	United Kingdom
India	Norway	USSR

No member body expressed disapproval of the document.

Shipbuilding – Numerical control of machines – ESSI format

0 Introduction

"The ESSI format" originally developed by the Central Institute for Industrial Research (SI), Oslo, Norway, is widely used for NC drawing and flame cutting machines. It has also been adopted by other manufacturers of drawing machines, flame cutting machines and controllers. The technical progress of this equipment has led to an enlarged table of machine functions, but the lack of coordination between the various manufacturers has resulted in different, incompatible "ESSI formats" being adopted. Difficulties in data transfer and communication between different users have been the result of these individual developments.

In order to avoid faults in the data transfer, the normal practice is to use the same physical control tape (paper tape, magnetic tape etc.) for both the NC drawing machine and the NC production machine. As the tape must contain the operational codes for both machines, care has to be taken to ensure that codes or machine functions not required for a particular machine will be ignored by its controller. As this problem also applies to control systems other than those using the "ESSI format", it will not be covered by this International Standard.

As communication and the interchange of data become more and more important in the future of shipbuilding, this International Standard will create a common basis for the control of those NC machine tools that use "ESSI format".

This International Standard will guarantee compatibility of programs and controllers of different origin and lead to better communication between hardware manufacturers, program originators and users of numerical control (NC) machine tools.

"The ESSI format" may be used in connection with any data code for punched cards, punched tapes, magnetic tapes etc. Use of standardized data codes is however strongly recommended.

Revisions of this International Standard will be proposed as technical progress warrants, or as future standards are adopted which conflict with this standard.

Annexes A and B form integral parts of this International Standard.

1 Scope and field of application

This International Standard specifies the ESSI format. It serves as a guide in the co-ordination of system design, to minimize the variety of programs required, to promote uniformity of programming techniques, and to foster interchangeability of programs between NC drawings and flame cutting machines used in the shipbuilding industry.

2 References

ISO 841, *Numerical control of machines — Axis and motion nomenclature*.

ISO 2806, *Numerical control of machines — Vocabulary*.

The definitions of terms and the nomenclature used in this International Standard are in accordance with the above mentioned Standards.

3 Words

3.1 The length of each specific word as assigned by the format classification is not specified.

3.2 For three-axis machines only, address characters shall be the first characters of a word.

3.3 Dimension words shall be incremental (although absolute coordinates can be introduced by means of functions 81 and 82) and shall contain digital data as follows :

3.3.1 All linear increments shall be expressed in digits preceded by an algebraic sign indicating direction.

3.3.2 Each block shall have digits for each increment except that if the digits for any axis are all zeroes, only the algebraic sign need be inserted for that word.

3.4 Non-dimension words shall contain data as follows :

3.4.1 Machine functions (auxiliary functions) shall consist of at most three (3) unsigned digits. (For designations, see annex B.)

4 Blocks

4.1 The maximum number of characters per block for any particular case may be derived from the format details found in annex A.

4.2 The end of each block of information shall be indicated by one of the following :

- a) LF (Line Feed) character;
- b) CR (Carriage Return) character;
- c) both LF and CR.

To cater for control tapes using both characters (LF and CR), controllers needing only one should have the facility to ignore

the other. In addition the first block of information shall be preceded by this (these) character(s).

4.3 If an initialisation block is present, for example in the case of facilitating an automatic rewind or an automatic code detection, it should be a special sign (% in ISO, EOR in EIA-punching code).

5 Addresses

5.1 In the variable block format the axis address consists of an unsigned digit (see annex B).