

Basic thoughts in the standards on safety of machines

Type A, B and C standards

Arrangement of the EN standards

The requirements of the Machinery Directive are substantiated by means of the EN standards, which are divided into three hierarchically arranged type classifications.

- **Type A standards** (Basic Standards) such as EN 292 "Safety of machines – Basic terms, general principles of design" and EN 1050 "Safety of machines – Risk assessment" which cover basic rules for machine safety.

- **Type B standards** (Group Standards) such as EN 954-1 "Safety-relevant parts of control systems" handle an aspect of safety which is applicable to a wide range of machines; they are sub-divided into the standard classifications B1 and B2.

Type B1 standards cover rules for basic aspects of safety such as ergonomic principles and safety clearances.

- **Type B2 standards** describe characteristics of protective equipment which can be used in various types of machines – such as EN 1088 "Interlocking devices with and without locking"

- **Type C standards** (Subject or Product Standards) Refer to individual types of machine or areas of application such as packing, moulding or bakery machines.

Processing the harmonised standards is an extremely demanding project which will still take years to complete. Some of the standards are at present therefore still in the draft phase. This is in particular true for the C standards. Designers therefore have to go back to the Type A and B

standards and the "helpful national standards" published in the EC Gazette, which can be used in the intermediate period. It must however be noted that other national standards are being used in other EU countries.

Finally it should be observed that the standards are not laws but are intended to provide assistance to the designer. He can achieve the protection targets mentioned in the Machinery Directive in other ways, but must provide evidence of this.