

Powder actuated fixing systems —

Part 1: Code of practice for safe use

ICS 25.140.01

Confirmed January 2011

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Machine, Engineers and Hand Tools Standards Committee (MTE/-) to Technical Committee MTE/21 upon which the following bodies were represented:

- British Hardware Federation
- Building Employers' Confederation
- Electricity Supply Industry in England and Wales
- Federation of British Hand Tool Manufacturers
- Federation of Master Builders
- Gun Trade Association Ltd.
- Health and Safety Executive
- Hire Association Europe
- Joint Industry Board for the Electrical Contracting Industry
- The Worshipful Company of Gun Makers

This British Standard, having been prepared under the direction of the Machine, Engineers and Hand Tools Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 December 1997

© BSI 04-1999

The following BSI references relate to the work on this standard:
Committee reference MTE/21
Draft for comment 87/74288 DC

ISBN 0 580 16278 8

Amendments issued since publication

Amd. No.	Date of issue	Comments
9899	April 1998	Indicated by a sideline in the margin

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Suitable base materials	2
4 Unsuitable base materials	3
5 Major hazards and precautions	3
6 Cartridge safety	4
7 Cleaning and maintenance of tools	5
8 Storage of tools	5
9 Training and selection of instructors and operatives	5
10 Personal protection	6
11 General safety precautions	6
Appendix A Simple test to determine suitability of a base material to accept fixings	7
Figure 1 — Indirect acting tool	1
Figure 2 — Direct acting tool	1
Figure 3 — Example of attachment	1
Figure 4 — Threaded studs	2
Figure 5 — Eyelet nails	2
Figure 6 — Cartridges	2
Figure 7 — Section through base material	3
Figure 8 — Simple test equipment	7
Publications referred to	Inside back cover

Foreword

This Part of BS 4078 has been prepared under the direction of the Machine, Engineers and Hand Tools Standards Committee. It applies to cartridge-operated fixing tools used mainly in the building industry, and is intended for use by designers, manufacturers, importers, suppliers, operatives and for personnel engaged in training operatives in the use of these tools. Powder actuated fixing systems are widely used as a fast and effective means of making fixings into various construction materials. This code of practice is based on a proposal submitted by the Health and Safety Executive and forms Part 1 of a standard covering such systems.

BS 4078 comprises the following Parts:

- *Part 1: Code of practice for safe use;*
- *Part 2: Specification for tools*.*

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 4078 gives guidance on the safe use of powder actuated fixing systems. It also gives guidance concerning proper storage of tools and cartridges.

NOTE 1 Other powder actuated tools, e.g. humane killers, marking tools and electric cable spiking tools may require special consideration and are therefore outside the scope of this Part of BS 4078.

NOTE 3 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of BS 4078 the following definitions apply.

2.1

powder actuated fixing systems

a system comprising a powder actuated tool, a cartridge (power load) and a fastener

2.2

indirect acting tool

a tool in which the energy produced by the cartridge is transmitted to the fastener by means of an intervening piston which is retained in the tool. The propelled mass in this case is the combination of the fastener and the piston (see Figure 1)

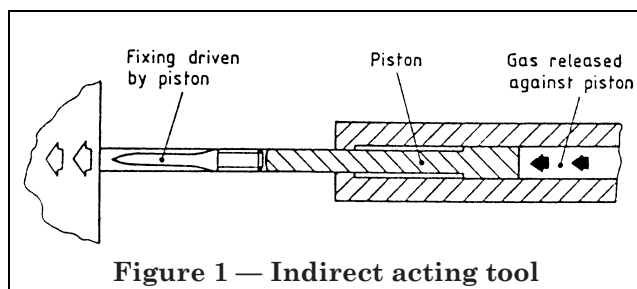


Figure 1 — Indirect acting tool

2.3

direct acting tool

a tool in which the energy produced by the cartridge acts directly on the fastener. The propelled mass in this case is the fastener (see Figure 2)

NOTE Great care should be taken when using this type of tool.

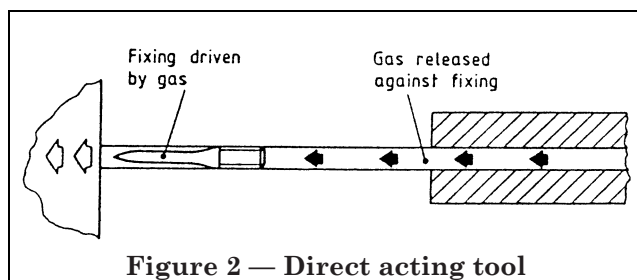


Figure 2 — Direct acting tool

2.4

fastener

a fixing device, which may be a nail, a threaded stud, an eyelet or similar object, that is driven into the base material

NOTE Fasteners normally incorporate washers of plastics or steel to act as a guide during the fixing operation.

2.5

nail

a fastener designed to attach one material to another such as wood to concrete or steel (see Figure 3)

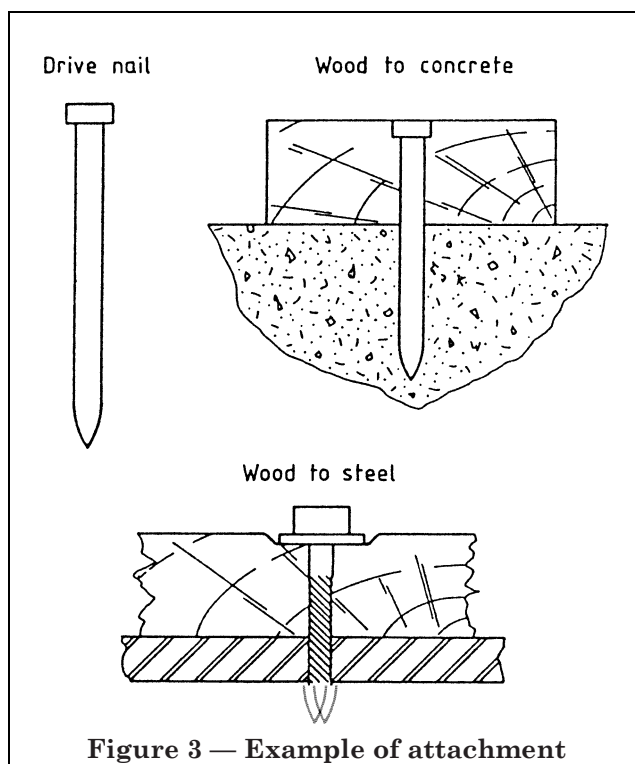


Figure 3 — Example of attachment

2.6

threaded stud

a fastener consisting of a shank portion which is driven into the base material, and a threaded portion which will accept a nut (see Figure 4)

2.7

eyelet nail

a fastener with a hole through which a wire can be passed for fixing ceiling hangers, light fixings, etc. (see Figure 5)