

Australian Standard<sup>®</sup>

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**Metal finishing—Preparation and  
pretreatment of surfaces**

**Part 7: Hand tool cleaning of metal  
surfaces**

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The following interests are represented on Committee MT/9:

Aluminium Development Council  
Australasian Institute of Metal Finishing  
Bureau of Steel Manufacturers of Australia  
Confederation of Australian Industry  
Department of Defence  
Metal Trades Industry Association of Australia  
Royal Australian Chemical Institute  
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## PREFACE

This Standard was prepared under the direction of the Association's Committee on Metal Finishing, to supersede AS 1627.7-1977, *Preparation and pretreatment of metal surfaces prior to protective coating – Hand cleaning of steel surfaces*.

This Standard is one in a series of Standards covering the preparation and pretreatment of metal surfaces used in metal finishing. Others in the series are as follows:

AS

- 1627.0 — *Method selection guide for preparation and pretreatment of steel surfaces*
- 1627.1 — *Degreasing of metal surfaces using solvent or alkaline solutions*
- 1627.2 — *Power tool cleaning of steel surfaces*
- 1627.3 — *Flame cleaning steel surfaces*
- 1627.4 — *Abrasive blast cleaning of steel surfaces*
- 1627.5 — *Pickling steel surfaces*
- 1627.6 — *Phosphate treatment of iron and steel surfaces*
- 1627.8 — *Wash primer pretreatment of metal surfaces*
- 1627.9 — *Pictorial surface preparation standards for painting steel surfaces*.
- 1627.10 — *Cleaning and preparation of metal surfaces using acid solutions (non immersion)*.

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## FOREWORD

Hand tool cleaning can be an acceptable method of surface preparation for mild interior and exterior atmospheric exposures, and for many maintenance situations where paints of good wettability are used. Hand tool cleaning is the least effective method of surface preparation for durability of paint coatings.

Hand tool cleaning is an expensive, limited cleaning method which is slow and physically arduous, and should only be considered when power tool or abrasive blast cleaning methods cannot be used. These methods are faster and more effective.

It will not remove all residues of rust or other corrosion products, nor will it remove firmly adherent millscale. For small limited areas, such as spot cleaning for maintenance priming, hand cleaning may suffice, even for paints requiring very clean surfaces.

## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

## METAL FINISHING—PREPARATION AND PRETREATMENT OF SURFACES

## PART 7: HAND TOOL CLEANING OF METAL SURFACES

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This Standard describes procedures and equipment for the preparation, by hand tools, of metal surfaces to which protective coatings are to be subsequently applied, and specifies surface finish requirements.

NOTE: Appendix A contains advice and recommendations on information which should be supplied by the purchaser at the time of inquiry or order.

**1.2 REFERENCED DOCUMENTS.** The documents below are referred to in this Standard.

AS

- |      |   |
|------|---|
| 1627 | Code of practice for preparation and pretreatment of metal surfaces prior to protective coating |
|      | Part 1: Degreasing of metal surfaces using solvent or alkaline solutions (AS 1627.1)            |
|      | Part 9: Pictorial surface preparation standards for painting steel surfaces (AS 1627.9)         |
| 1715 | Selection use and maintenance of respiratory protective devices                                 |
| 1716 | Respiratory protective devices  |

**1.3 DEFINITIONS.** For the purpose of this Standard, the definition below applies.

*Hand tool cleaning*—a method of preparing metal surfaces prior to painting, by removing loose mill scale, rust or other corrosion products and paint, by means of hand wire brushing, hand sanding, hand scraping, hand chipping (see Foreword) or a combination of these methods.

**1.4 SURFACE REQUIREMENTS.**

**1.4.1 Steel.** Surfaces shall be prepared to comply with one of the following classes, as specified:

- (a) Class 1— all loose material removed.
- (b) Class 2— all loose material removed, plus some polishing or scratching to bare metal, producing at least an equivalent to St 2; some areas may be equivalent to St 3. (See AS 1627.9.)

**1.4.2 Metals other than steel.** Surface preparation is to be specified.

NOTE: Guidance on surface preparation of light metals is given in Table 2.2.