

**THE MANUFACTURE AND  
COMPARATIVE  
MERITS OF WHITE LEAD  
AND ZINC WHITE PAINTS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649539154

The Manufacture and Comparative Merits of White Lead and Zinc White Paints by G. Petit & Donald Grant

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**G. PETIT & DONALD GRANT**

**THE MANUFACTURE AND  
COMPARATIVE  
MERITS OF WHITE LEAD  
AND ZINC WHITE PAINTS**



THE MANUFACTURE  
AND COMPARATIVE MERITS OF  
WHITE LEAD AND ZINC WHITE PAINTS

28

28

28

THE MANUFACTURE  
AND COMPARATIVE MERITS OF  
WHITE LEAD AND ZINC WHITE PAINTS

BY

G. PETIT  
CIVIL ENGINEER, ETC.

*TRANSLATED FROM THE FRENCH*

BY

DONALD GRANT  
TECHNICAL CHEMIST

LONDON

SCOTT, GREENWOOD & SON  
"THE OIL AND COLOUR TRADES JOURNAL" OFFICES  
8 BROADWAY, LUDGATE HILL, E.C.

CANADA: THE COPP CLARK CO. LTD., TORONTO  
UNITED STATES: D. VAN NOSTRAND CO., NEW YORK

1907

*[The sole right of Translation into English rests with  
Scott, Greenwood & Son]*

## TRANSLATOR'S PREFACE

POLEMICAL parts of this book form a contribution to a controversy which is being carried on as vigorously in France and other continental countries as in the United Kingdom and the United States. It is hoped that English-speaking combatants will find here some valuable ammunition for their warfare. Many painters will agree with the author that white lead as a paint basis is unrivalled, even with the serious drawback of darkening under the action of sulphuretted fumes, and the danger from lead poisoning by reckless handling. With reference to Stas' saponification theory, it is well to bear in mind that linseed oil contains free fatty acid, which plays an important part in white lead paint. It must not be forgotten that it is for the advantage of those interested in inert white lead substitutes to claim that white lead is itself inert.

As to the practical portions of the work, especially the sections on paint grinding, the translator believes that they fill a somewhat conspicuous gap in our special literature of the subject. It will be noted that in the matter of packages French practice differs to some extent from our own. The application of stiff paint as an *enduit*, or continuous layer, to ensure a smooth surface, as done in France, is not



practised in Britain, except as far as "filling up" is concerned. Our only equivalent for the *enduseur* is our painters' labourer. It would be difficult to get such a thick layer as an *enduit* to dry in our climate.

DONALD GRANT.

LONDON, *October* 1907.

# CONTENTS

## CHAPTER I

	PAGES
Fundamental Principles of Painting in Oil—Basis, Colouring Principle, Vehicle, Thinners, Driers . . . . .	1-9

## CHAPTER II

The Different Varieties of White Leads . . . . .	10-37
Methods of Manufacture :—	
Dutch Process . . . . .	11
" " " " . . . . .	12-24
French Process . . . . .	11
Hot Chamber Process, etc. . . . .	11
Krems Process, . . . . .	12
English Method . . . . .	12
Grinding White Lead in Oil . . . . .	24-37

## CHAPTER III

Other Processes (than Dutch) of Manufacturing White Lead	38-46
--	-------

## CHAPTER IV

White Lead Substitutes—Sophistication of White Lead—Analysis of White Lead . . . . .	47-52
Lithopone . . . . .	46-49
Zinc Sulphide . . . . .	49-50
Various Whites . . . . .	50
Sophistication of White Lead . . . . .	50-51

## CHAPTER V

	PAGES
White Lead Paints—Their Merits and Defects . . . . .	53-61
White Lead <i>Enduits</i> (Putty filling up) . . . . .	60-61

## CHAPTER VI

Toxicology of White Lead—Lead Poisoning—Precautions—Symptoms—Baths—Antidotes—Medical Inspection—Education of Apprentice as to Poisonous Nature of White Lead . . . . .	62-66
--	-------

## CHAPTER VII

Zinc White—Its Preparation . . . . .	67
History of Zinc White Paint . . . . .	67
Manufacture from Metal . . . . .	68-71
Various Brands of Zinc Oxide from Metal . . . . .	70-71
Snow-white Zinc Oxide . . . . .	70
Preparation of Zinc Oxide from the Ore . . . . .	71-79
"    "    Franklinite, Wilhelmite, Zincite . . . . .	79

## CHAPTER VIII

Grinding of Zinc White to a Stiff Paste in Oil . . . . .	80-83
Livache's Law as to Ratio of Oil to Pigment . . . . .	82-83
Packing and Packages and Storage, Gross and Net Weights . . . . .	83

## CHAPTER IX

Zinc White Paint and Zinc White Coatings—Their Merits and Defects . . . . .	84-90
INDEX . . . . .	91-95