BEST PRACTICE GUIDE
INSTALLATION
OF DRYLINING

www.thefis.org
BEST PRACTICE GUIDE
INSTALLATION
OF DRYLINING

Supported by

This project has been delivered with support from CITB, which aims to ensure that the construction industry has the right people, with the right skills, in the right place, at the right time and is equipped to meet the future skills demands of the industry.

First edition published April 2015
This edition published August 2018
ISBN 978-0-9565341-6-3
World copyright reserved
Copyright © 2018 FIS
Published by FIS

No part of this document may be reproduced or transmitted in any form or by any means electronic, chemical or mechanical, including photocopying, any information storage or retrieval system without licence or other permission in writing from the copyright owner.

While every care has been taken to ensure the accuracy of the details presented in this document, we regret that FIS cannot be held responsible for any errors or omissions contained herein.
CONTENTS

1 Foreword ........................................ 4

2 Introduction .................................... 5
  2.1 Scope ........................................ 5

3 Recommendations for tendering and measurement .... 6
  3.1 Contract conditions .......................... 6
    3.1.1 Basis of measurement .................. 6
    3.1.2 Programme ............................. 8
  3.2 Main contractor (attendances) .................. 8
    3.2.1 Specialist scaffolding ................. 8
    3.2.2 Unloading / distribution / hoists .... 8
    3.2.3 On-site storage ........................ 7
    3.2.4 Storage and handling .................. 7
    3.2.5 Temporary lighting and power ......... 7
    3.2.6 Working space ........................ 7
    3.2.7 Waste management ..................... 7
  3.3 Design requirements ........................ 7
    3.3.1 Drawings for tender enquiry .......... 7
    3.3.2 Specification .......................... 7
  3.4 Building owner inviting tender ............... 8

4 Contract planning ............................. 9
  4.1 Sequence of installation .................... 9
  4.2 Materials management ........................ 9
  4.3 Site conditions ............................. 10
  4.4 Programme ................................. 10
    4.4.1 Acceptance of the works .............. 10

5 Setting out and installation tolerances ............ 11
  5.1 Installation tolerances and quality of the installation .... 11
    5.1.1 Setting out of partitions and independent linings .... 11
    5.1.2 Finished surfaces of partitions and independent linings .... 11
    5.1.3 Localised build-up of the surface .... 11
    5.1.4 Board stud ................................ 11

6 Drywall system types and installation procedures .... 12
  6.1 Determining the correct materials ............. 12
  6.2 Checklist for the selection of partition systems .... 12
  6.3 Key legislative and guidance documents ......... 12
    6.3.1 Fire resistance and fire protection ........ 12
    6.3.2 Acoustic performance ................... 15
    6.3.3 Thermal performance .................... 16
  6.4 Duty rating performance ..................... 17
  6.5 Maximum partition heights ................... 17
  6.6 Environmental conditions .................... 18
  6.7 Air tightness ................................ 18
  6.8 Correct selection of performance-related products .... 18
    6.8.1 Material tolerances ..................... 18
    6.8.2 Metal stud and timber stud ............ 18
    6.9 Categories of drylining systems ........... 18
      6.9.1 Wall linings ............................ 18
      6.9.2 Independent wall linings ............. 19
      6.9.3 Metal studs on brackets .............. 19
      6.9.4 Metal furring and adhesive .......... 19
      6.9.5 Direct bonding ........................ 20
      6.9.6 Seamless bonded ....................... 20
  6.10 Partition types ............................ 20
    6.10.1 Partitions ............................. 20
    6.10.2 Curved partitions ..................... 21
    6.10.3 Twin frame ............................. 21
    6.10.4 Resilient bar ........................... 22
    6.10.5 Staggered stud .......................... 22
    6.10.6 Shaft walls ............................. 22
    6.10.7 Firewalls ............................... 23
    6.10.8 Bump blast walls/security walls ....... 23
  6.10.9 Encasements ............................. 23
  6.11 How to assemble metal stud and fix the plasterboard .... 24
    6.11.1 Metal stud partitions ................... 24
    6.11.2 Insulation ................................ 26
    6.11.3 Types of boards ......................... 27
    6.11.4 Implications of mixing and matching systems .... 27
    6.11.5 Definitions .............................. 28
    6.11.6 Correct and accurate measurement and outlay of board and metal .... 28
    6.11.7 J-joists ................................. 31
  6.11.8 Façade interface, where partitions abut a single mullion ........ 31
    6.11.9 How to cut openings for other services .... 32
  6.11.10 Performance implications of altering the drywall ........ 32
  6.11.11 Maintaining fire rating .................. 32

7 Drywall systems and ancillaries .................. 33
  7.1 Installing doors and glazing in drylining .......... 33
  7.2 Water vapour control ........................ 33
  7.3 Fire stopping in drylining ................... 33

8 Drywall finishes and finishing .................. 35
  8.1 Finishing of the drywall after construction .... 36
  8.2 What is taping and jointing? .................. 35
  8.3 What is skimming? ............................ 35
  8.4 Quality of the jointing ...................... 36
  8.5 Preparation .................................. 36
  8.6 Methods of application ...................... 37
  8.7 Primer and sealer ............................ 37
  8.8 Taping and sealing of all joints and impact on fire and acoustic performance .... 37
  8.9 Impact of applied loadings on drylining .......... 37

9 Contract support and administration ............... 38
  9.1 Training ..................................... 38
  9.2 Sustainability ................................ 38
  9.3 Health and safety including working at height .... 38
  9.4 Use of powered saws .......................... 39
  9.5 Use of gas and cartridge tools ............... 39
  9.6 Cots .......................................... 39
  9.7 Manual handling ............................ 39
  9.8 Noise exposure ............................... 39
  9.9 Dust and fume exposure ...................... 40

10 References .................................... 41
    10.1 British Standards relevant to drylining and partitioning .... 41
    10.2 Definitions .................................. 41

11 Acknowledgements ............................. 43
This guide has been developed by FIS to promote best practice in the installation of drylining.

Drywall partitions are an integral part of many fit outs, offering fire, acoustic and structural performance, as well as making a major contribution to the overall appearance and quality of the finished space. However, for the completed drywall to meet the legitimate expectations of the building owner, occupier, design professionals and construction team, the selection and installation process must be carefully considered and understood by all parties.

Drylining is a finishing trade and requires installation by specialist contractors. The specialist contractor will provide the high levels of management, operative skills and resources essential to delivering a high-quality product. Their considerable experience on similar projects will be of significant assistance to the construction team.

System manufacturers design and produce drywall systems, which are then tested to meet the requirements for various environmental and performance levels. The provision of a whole range of design solutions is part of the responsibilities taken by manufacturers, who have a key role to play in drywall design.

FIS has grown over the past 50 years to become the leading trade association for the finishes and interiors sector of the construction industry, representing companies involved in the manufacture, supply and installation of all aspects of finishes, interior fit out and refurbishment. Its members can provide optimum solutions for installing interior elements.

This FIS best practice guide to the installation of drylining is not intended as a definitive technical manual, as the manufacturers’ recommendations must always be followed, but as a guide to the construction team of best practice. FIS encourages all its members to follow the principles set out in this guide.
This guide is primarily concerned with the design and installation of internal, non-loadbearing drylining constructions using gypsum plasterboard on rigid metal framework. However, it also includes descriptions of other non-plasterboard, such as calcium silicate board, which are also used in drylined systems. This guide includes drylined partitions, linings and fire protection. Drylined ceilings are covered in the FIS Best Practice Guide – Installation of Suspended Ceilings.

Drylining systems are able to provide high levels of fire protection, fire resistance, sound insulation and thermal insulation. The correct design and installation are essential to ensure these performances are achieved.

The relative weight of drylined systems compared with blockwork, the speed of erection, fire, acoustic and thermal performance and the versatility of the systems make drylining a popular choice in all sectors of the industry. As such, they are used in all sectors, including residential, commercial, retail, medical and educational building types.

This guide provides useful information on a variety of disciplines involved in the design, management and installation of drylining systems, such as architects, engineers, main contractors, subcontract supervision and operatives.

The installation and design of the proprietary drylined systems will vary from one manufacturer to another, so reference should always be made to the manufacturer’s technical literature for current methods of installation.

2.1 SCOPe

This best practice guide provides guidance for the design, selection and installation of non-loadbearing systems only, which comprise a rigid metal frame enclosed by boards that are not subjected to loading from the structure in which it is installed. Drylining systems can be subjected to an imposed load, such as tiling or mounted TVs. Full guidance should be obtained from the relevant manufacturer regarding the maximum loads drylined systems can facilitate.

Loadbearing constructions such as structural framing systems (SFS) or structural timber frame may use the same boards as for the non-loadbearing systems. Guidance for these systems should be sought from the relevant manufacturers.