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Concrete Slabs that Receive Moisture-Sensitive Flooring Materials—Guide

Reported by ACI Committee 302

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Concrete Slabs that Receive Moisture-Sensitive Flooring Materials—Guide

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Concrete Slabs that Receive Moisture-Sensitive Flooring Materials—Guide

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This guide contains materials, design, and construction recommendations for concrete slabs-on-ground and suspended slabs that are to receive moisture-sensitive flooring materials. These flooring materials include sheet rubber, epoxy coatings, vinyl composition tile, sheet vinyl, carpet, athletic flooring, laminates, and hardwood.

Keywords: admixtures; cracking; curing; curling; drying; mixture proportioning; moisture movement; moisture test; relative humidity; slabs-on-ground; specifications; vapor retarder.

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CHAPTER 1—INTRODUCTION AND SCOPE

1.1—Introduction

Moisture-related problems with floor covering materials are a serious and costly construction issue. Such problems include blistering, delamination, adhesive degradation, adhesive bleed, and mold growth. Claims for the correction of these problems may call for full or partial replacement of the flooring system. Claims may also be made for construction delays, lost revenue, or health issues related to indoor air quality. It is currently up to architects, engineers, flooring installers, flooring and adhesive manufacturers, concrete contractors, and concrete producers to solve these problems.

1.2—Scope

Chapters 1 through 8 provide an understanding of concrete moisture behavior and drying and show how recommended construction practices can contribute to successful performance of floor covering materials. This background provides a basis for the recommendations in Chapter 9 to improve the performance of floor covering materials in contact with concrete moisture and alkalinity.

Because this guide is specific to floor moisture problems and solutions, refer to ACI 302.1R and ACI 360R for general information. These two documents contain guidance on floor design and construction that is needed to achieve successful floor covering performance.

The objective of this document is to provide information and guidance to help reduce the potential for moisture-related flooring problems to occur with both slabs-on-ground and suspended slabs. It provides basic information on the