Division of Technical Resources
Office of Research Facilities
The National Institutes of Health
Vol. 01, No. 70
January 2016
News to Use
Design Requirements Manual
The formulae for building state of the art biomedical research facilities.
'Design Requirements Manual (DRM) News to Use' is a monthly ORF publication featuring salient technical information that should be applied to the design of NIH biomedical research laboratories and animal facilities. NIH Project Officers, A/E's and other consultants to the NIH, who develop intramural, extramural and American Recovery and Reinvestment Act (ARRA) projects will benefit from 'News to Use'.
Please address questions or comments to: shawm@mail.nih.gov

Resilient Bases

Resilient bases are installed at the base of walls to protect the walls and function as trim at the wall/floor junction. Resilient bases are appropriate in administrative areas, most standard clinical spaces, BSL-2 labs and other light and moderate-duty areas. They are not appropriate in areas subject to high wear, animal facilities, or containment or aseptic or clean environments.

A primary drawback of resilient basses is the joint between the base and the floor, which cannot be cleaned. For areas where unsealed joints are not acceptable a flooring with an integral base must be used.

A resilient base must pliant enough to conform to the profile of the wall and hide imperfections. It must also be flexible enough to form corners and durable enough to withstand the impacts of floor cleaning and traffic.

Resilient Base Materials: Rubber
Thermoset Vulcanized Rubber (TSR) bases are 100% rubber, usually synthetic rubber but may contain a percentage of natural rubber. Rubber is naturally strong, resilient and flexible, and is an ideal material for bases. TSR is homogeneous throughout, so damage will not be highly visible. TSR bases are very durable and long-lasting and are the most expensive base material.

Resilient Base Materials: Vinyl
Thermoplastic Rubber (TPR) bases are made of a mix of polymers, usually mostly plastic with some rubber, and are formulated to have similar characteristics as rubber. TRP is usually has a base layer and a finish layer, so damage is visible. Flexibility, durability and other characteristic can be similar to rubber or similar to vinyl depending on the formulation. TRP is a mid-range price option.

Thermoplastic Vinyl (TV) bases are made almost entirely of Polyvinyl Chloride (PVC). TV bases have a decorative wear layer over a light-colored base layer, so damage is visible. TB is not as flexible as rubber, so it not as easy to install and is more susceptible to damage. TV is a low-cost option.

Resilient Base Styles:
Straight Base: The exposed surface of the base is straight and vertical, and dos not have a 'toe' at the floor. Straight bases are appropriate for carpeted floors.

Cove Base: The exposed surface of the base has a curved or angled 'toe' that overlaps and fits snugly against the floor, facilitating maintenance. Cove bases are appropriate for resilient floors.

Further details on this month's topic are available on the DRM website:
Design Requirements Manual
DRM Chapter 4 Section 4 Interior Finishes

Sanitary Toe: The exposed surface of the base has a curved or angled 'toe' that extends horizontally and butts flush against the flooring. This type of base is not usual, but can bed an option for resilient floors in certain applications.

Types of Resilient Bases: Straight, Cove, Sanitary Toe

Resilient bases are generally available in 2 ½", 4" and 6" heights. A minimum of 4" is required for NIH facilities to provide adequate wall protection. Bases are generally available in 4' sections or 120' rolls. Rolls are required for NIH facilities to minimize joints. Resilient are available .08" and .125" thickness. .125" thick bases are required for NIH facilities for durability and to conceal irregularities and reduce shrinkage. Inside and outside corners can be field-fabricated or pre-formed corners are available. Field-fabricated corners are acceptable, but must be skillfully done by an experienced installer.

Performance Requirements
ASTM standards should be referenced in the specifications to define minimum performance requirement

ASTM F1861, Standard Specification for Resilient Wall Base, is a general standard for resilient bases, includes materials, general performance and installation.

ASTM F137, Standard Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus, is a standard for flexibility, including bending and crack-resistance.

ASTM F1515, Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change, is a standard for resistance to light, including fading and aging.

ASTM F925, Standard Test Method for Resistance to Chemicals of Resilient Flooring, is a standard for chemical resistance

Further Reading
ASTM Standards, http://www.astm.org/

"Not All Wall Base is Created Equal", Interiors Sources, 7/01/2009