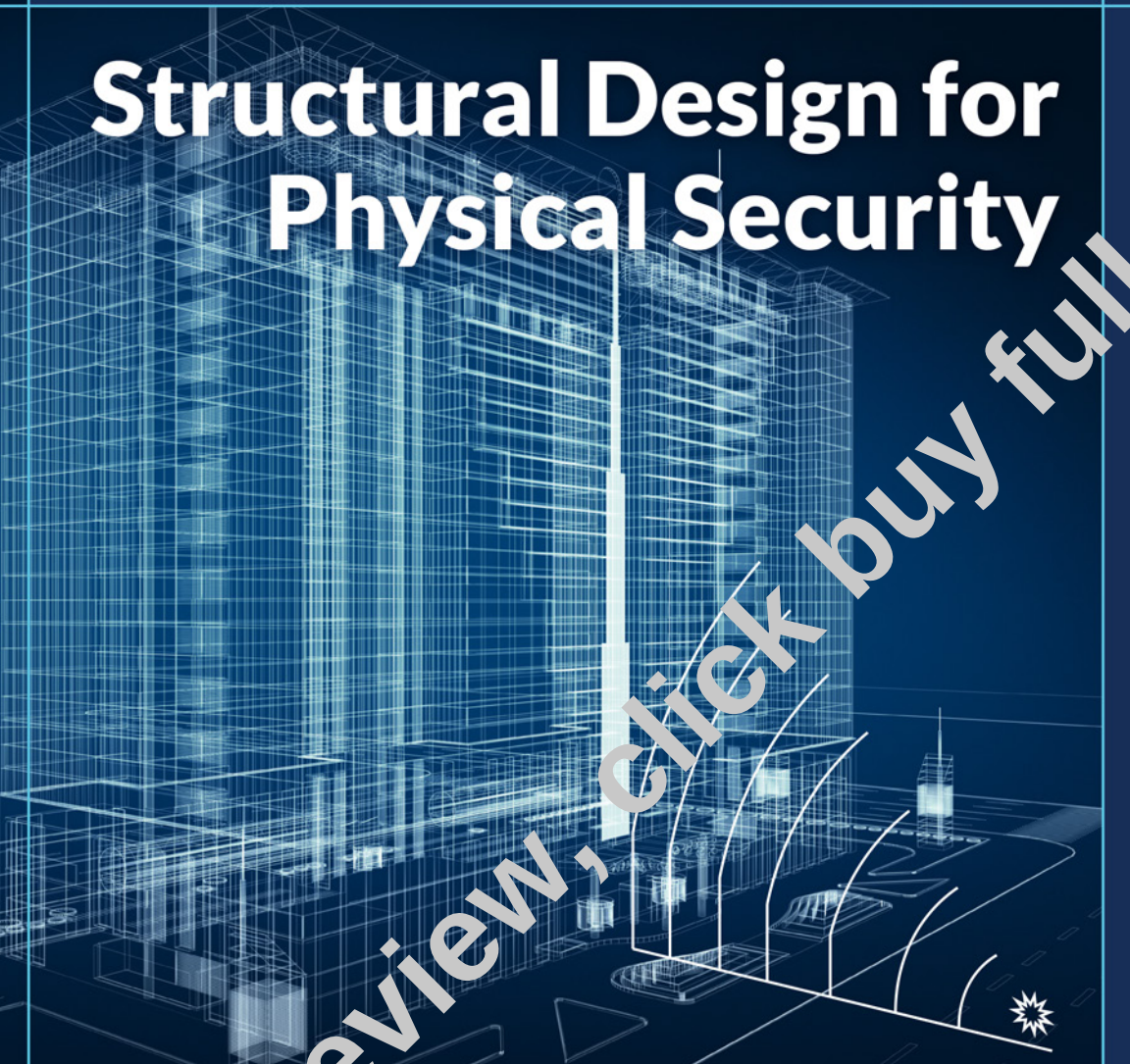
ASCE Manuals and Reports on Engineering Practice No. 142

Structural Design for Physical Security



Task Committee on Structural Design for Physical Security

Edited by Peggy Van Eepoel, P.E., and Sharon M. Gallant, P.E., S.E.

ASCE

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Structural Design for Physical Security

Prepared by the
Task Committee on Structural Design for Physical Security of the
Blast, Shock, and Impact Committee of the Dynamic Effects
Technical Administration Committee of the Structural Engineering
Institute of the American Society of Civil Engineers

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ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS

Published by the American Society of Civil Engineers

Library of Congress Cataloging-in-Publication Data

Names: Structural Engineering Institute. Task Committee on Structural Design for Physical Security, author. | Van Eepoel, Peggy, editor. | Gallant, Sharon M., editor. | Structural Engineering Institute. Task Committee on Structural Design for Physical Security, author.
Title: Structural design for physical security / edited by Peggy Van Eepoel, P.E., and Sharon M. Gallant, P.E., S.E. ; prepared by the Task Committee on Structural Design for Physical Security of the Blast, Shock, and Impact Committee of the Dynamic Effects Technical Administration Committee of the Structural Engineering Institute of the American Society of Civil Engineers.
Description: Reston : American Society of Civil Engineers, 2021. | Series: ASCE manuals and reports on engineering practice ; no. 142 | "The first edition of this book was published in the aftermath of the bombing attacks on the World Trade Center in New York, New York in 1993 and on the Alfred P. Murrah Building in Oklahoma City, Oklahoma in 1995."--Preface. | Includes bibliographical references and index. | Summary: "This Manual Practice provides guidance to structural engineers in the design of civil structures to resist the effects of terrorist bombings"-- Provided by publisher.
Identifiers: LCCN 2020057235 | ISBN 9780784415498 (hardcover) | ISBN 9780784482681 (adobe pdf)
Subjects: LCSH: Building, Bombproof. | Structural design. | Buildings--Security measures--United States.
Classification: LCC TH1097 .S76 2021 | DDC 693.8/54--dc23
LC record available at https://lccn.loc.gov/2020057235

Published by American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, Virginia 20191-4382
www.asce.org/bookstore | ascelibrary.org

Errata: **Errata, if any, can be found at https://doi.org/10.1061/9780784415498.**

ISBN 978-0-7844-1549-8 (print)
ISBN 978-0-7844-8268-1 (PDF)

Manufactured in the United States of America.

27 26 25 24 23 22 21 1 2 3 4 5

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PREFACE

BACKGROUND

The first edition of this book was published in 1999 during the aftermath of the bombing attacks on the World Trade Center in New York City in 1993 and on the Alfred P. Murrah Building in Oklahoma City, Oklahoma, in 1995. These terrorist events and others worldwide created a need for structural engineers to protect a much broader portfolio of facility types against hostile acts, including threats posed by criminals, terrorists, and subversives. Although many US military and other government entities have had methodology and criteria documents, they were primarily restricted to official use only. The goal was to provide a widely available document to structural engineers so they may better understand the design of structures with enhanced physical security.

Since 1999, the United States has been subject to significant terrorist events, the most impactful being the 2001 airplane attacks on the World Trade Center in New York City and at the Pentagon in Arlington, Virginia. In the two decades that followed, there have been ongoing wars related to international and domestic terrorism and evolving threats involving bombings, hostile vehicle rammings, active shooters, civil disturbance, and chemical–biological attacks. The constant change in aggressor profile, threat tactics, and types have led to the need for flexible and adaptable physical security designs that account for these new considerations and anticipate future environments, with flexibility and adaptability being priorities. Physical security considerations are now applied to select municipal facilities, cultural venues, hospitals, stadiums, schools, places of worship, and other "soft" targets that previously had no precedence to necessitate protection against attack.