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CODE ADVISORY 2022 SURVEY RESULTS

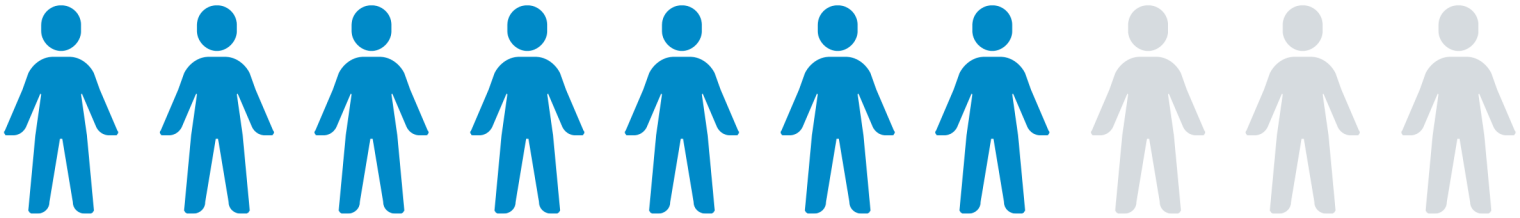
In the Fall of 2022, the National Council of Structural Engineers Associations (NCSEA) Code Advisory Committee (CAC) issued a survey to 15,000 structural engineers to generate feedback on key technical topics that affect the practice of Structural Engineering.

The results of this survey empower NCSEA to exert a positive influence on the development and application of relevant codes and standards to support the practicing engineer.

DEMOGRAPHICS

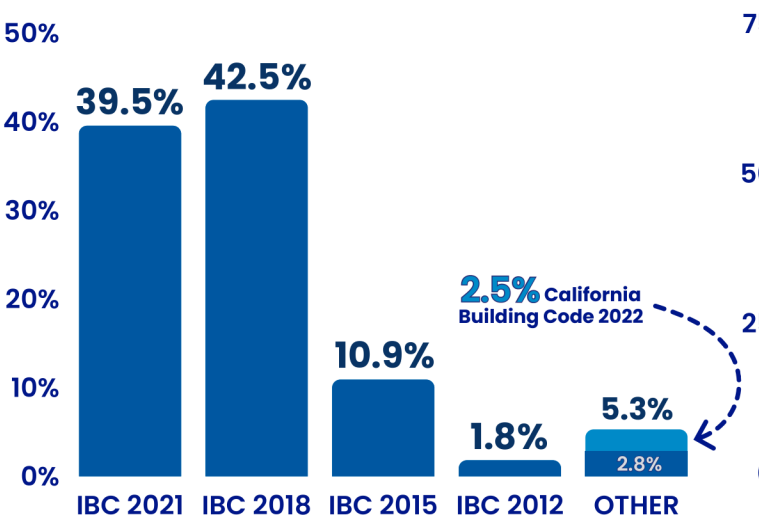
HOW MANY YEARS HAVE YOU BEEN PRACTICING?

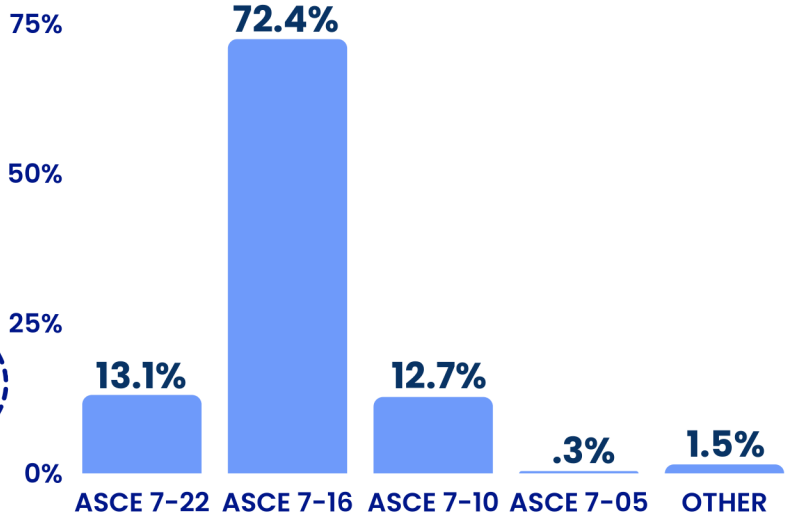
75.6% Have more than 11 years of experience



26.1% 30+ Years **23.1%** 21 to 30 Years **26.4%** 11 to 20 Years **16.3%** 5 to 10 Years **8.1%** Less than 5 Years

CURRENT EDITION OF MODEL BUILDING CODE/STANDARDS

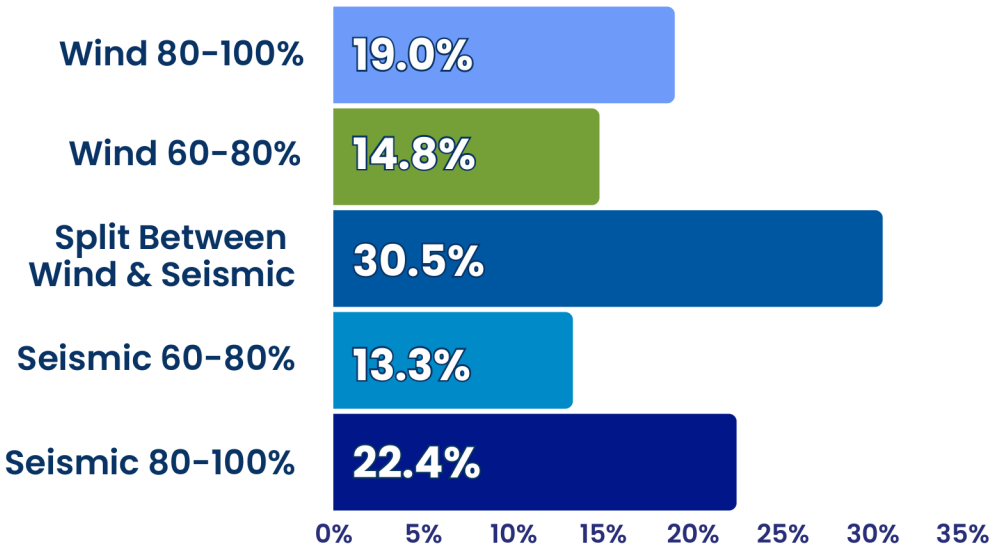




CONTROLLING HAZARD FOR LATERAL FORCE RESISTING SYSTEM

30.5%

Split Between Wind & Seismic



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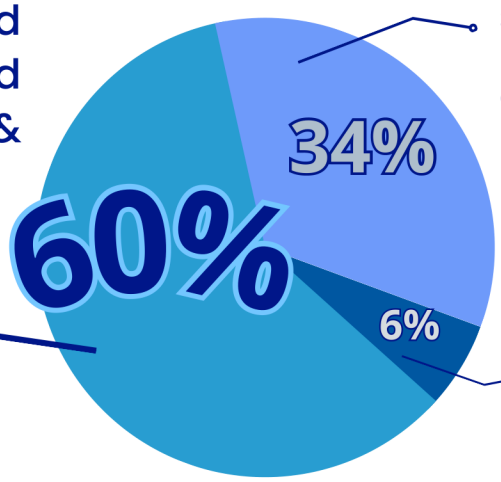
LOAD COMBINATIONS

PUBLISHING PREFERENCES

60% prefer that Load Combinations published only within ASCE 7 & referenced in the IBC



34% prefer that Load Combinations be published within ASCE 7 and duplicated in the IBC.

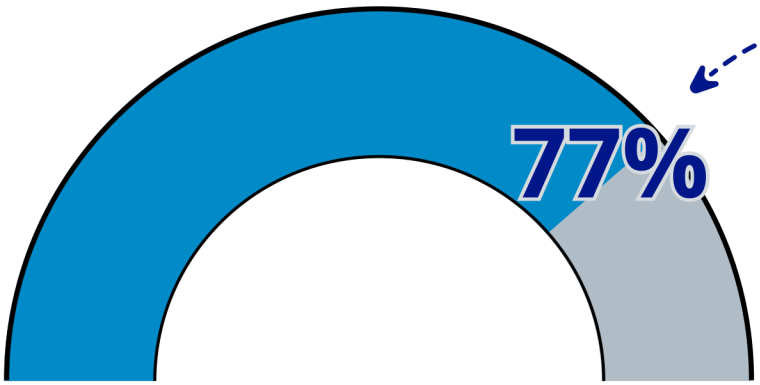
6% prefer that Load Combinations be split up between the IBC and ASCE 7 (as in the 2021 IBC).

USAGE OF ALTERNATIVE ALLOWABLE STRESS DESIGN LOAD COMBINATIONS

55.5% **NEVER** use Alternative Allowable Stress Design Load Combinations

27.3% **RARELY**
14.5% **OFTEN**
2.7% **ALWAYS**

use Alternative Allowable Stress Design Load Combinations



APPROVE of deleting Alternative Allowable Stress Design Load Combinations

Based on the respondents who currently use Alternative Allowable Stress Design Loads. **23%** of respondents would object to the deletion.

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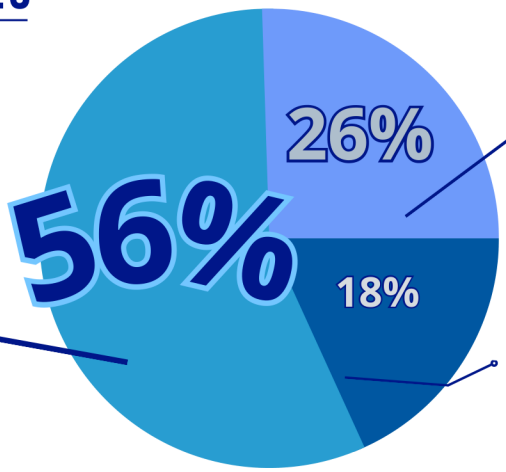
LIVE LOAD REDUCTIONS

PUBLISHING PREFERENCES

56% prefer that Live Load Reduction provisions be published only within ASCE 7 & referenced in the IBC

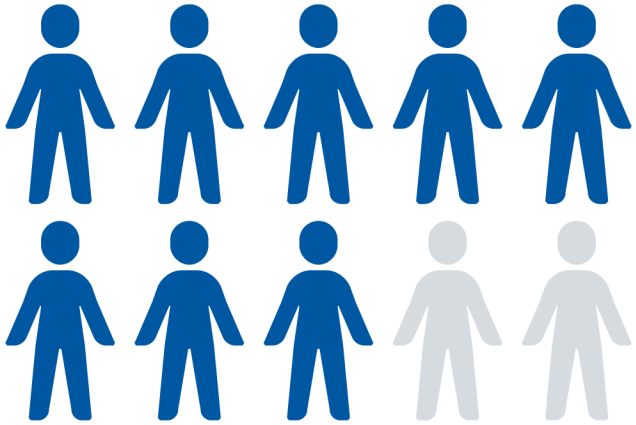


26% prefer that Live Load Reductions be published within ASCE 7 and duplicated in the IBC.

18% prefer that Live Load Reduction provisions remain as they are at present.

Basic Uniform Live Load Reductions in IBC and ASCE 7

Alternative Uniform Live Load Reductions only in IBC



83.4% APPROVE deleting Alternative Uniform Live Load Reduction provisions

16.6% of respondents would object to the deletion.

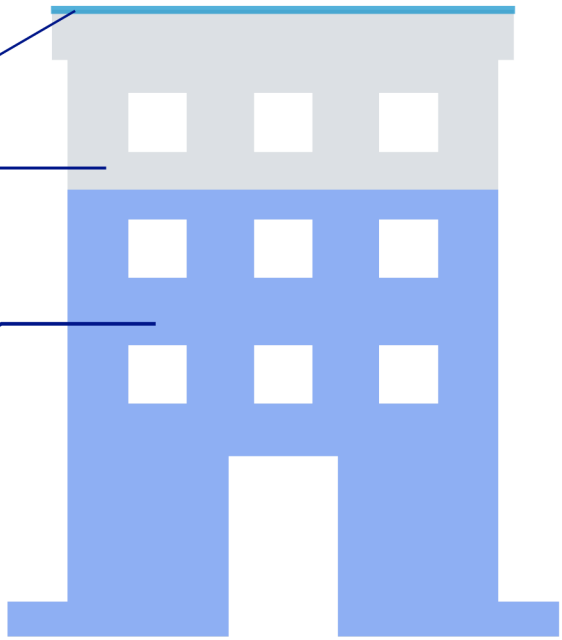
WIND

WHEN DETERMINING MAIN WIND FORCE RESISTING SYSTEM (MWFRS) WIND LOADS ON BUILDINGS

0.5% use Chapter 31: Wind Tunnel Procedure

28.4% use Chapter 28: Envelope Procedure, Low-Rise Building

71.1% use Chapter 27: Directional Procedure, Buildings of All Heights



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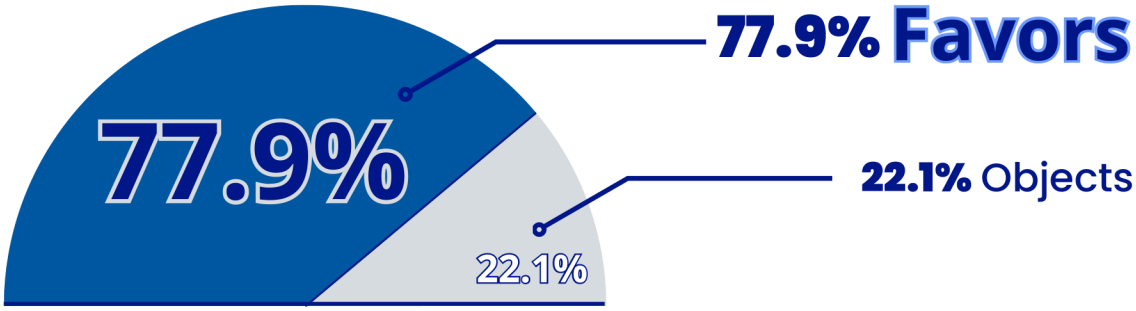
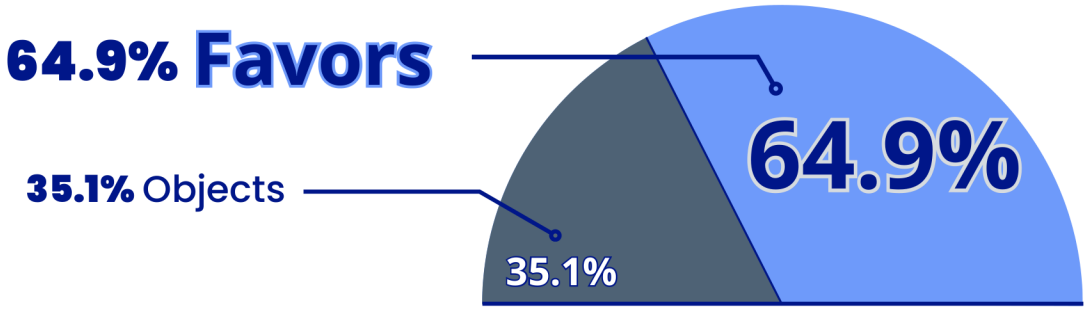
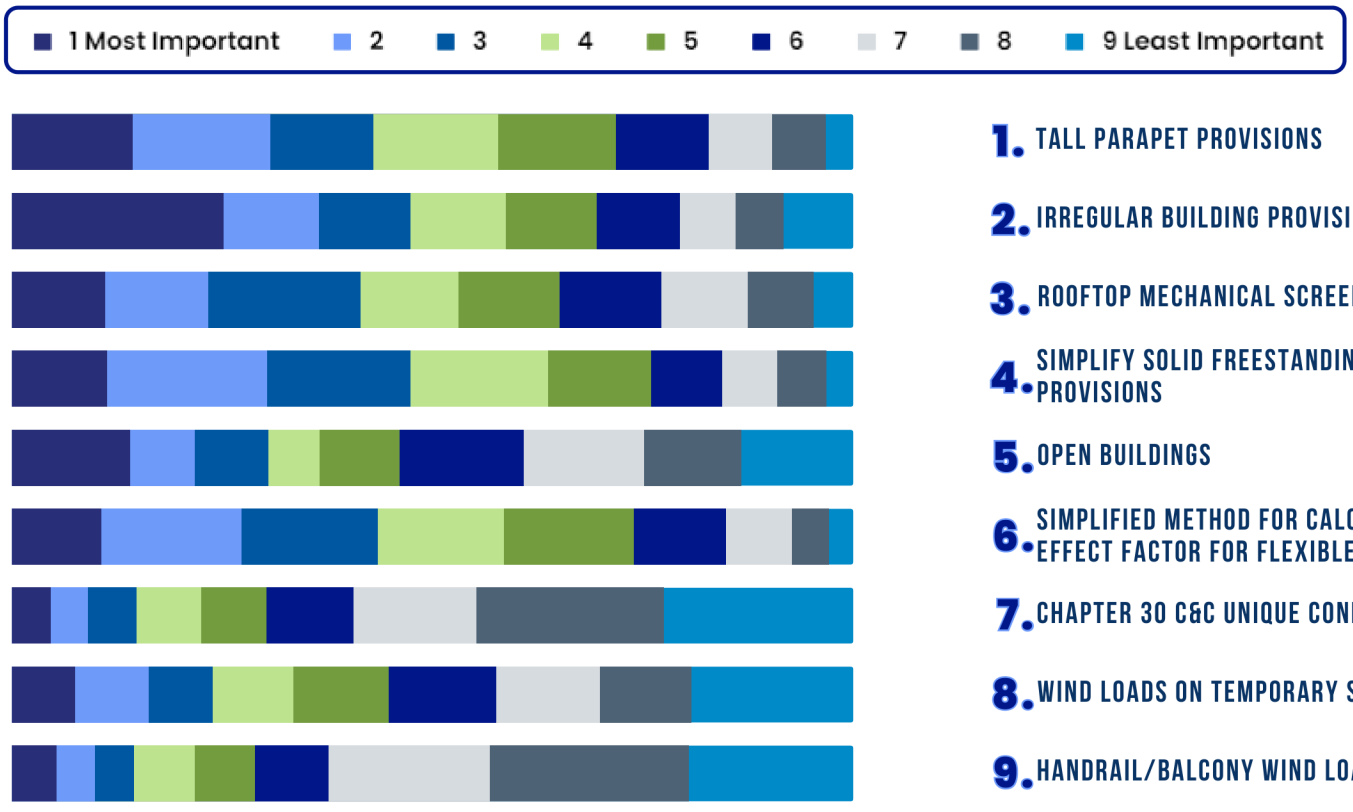
ARE YOU IN FAVOR OF ASCE 7 PROVIDING A SINGLE COMPUTATIONAL METHOD FOR DETERMINING MWFRS WIND LOADS ON BUILDINGS?



ARE YOU IN FAVOR OF ADDING WIND LOAD PROVISIONS FOR IRREGULAR BUILDINGS (MWFRS AND C&C), EVEN IF IT ADDS LENGTH/VOLUME TO ASCE 7?



WIND DESIGN MODIFICATIONS



1. TALL PARAPET PROVISIONS
2. IRREGULAR BUILDING PROVISIONS
3. ROOFTOP MECHANICAL SCREEN PROVISIONS
4. SIMPLIFY SOLID FREESTANDING WALL PROVISIONS
5. OPEN BUILDINGS
6. SIMPLIFIED METHOD FOR CALCULATING GUST EFFECT FACTOR FOR FLEXIBLE STRUCTURES
7. CHAPTER 30 C&C UNIQUE CONDITIONS
8. WIND LOADS ON TEMPORARY STRUCTURES
9. HANDRAIL/BALCONY WIND LOADS

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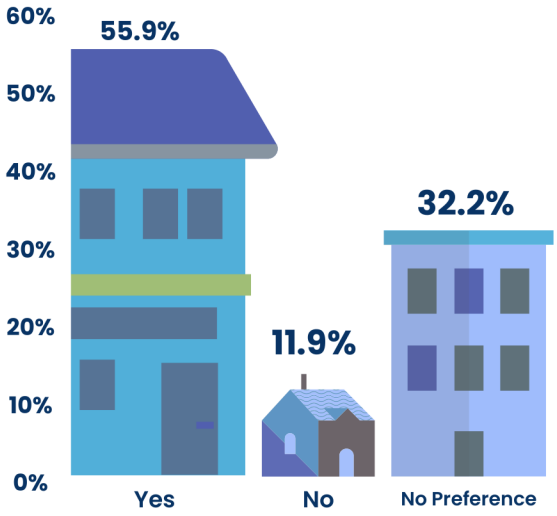
SEISMIC

That would allow an essentially elastic (R = 1) design for strength; for 1 to 3 story regular buildings (especially lightweight buildings governed by wind), located in Seismic Design Categories B and C.

55.9%
PREFER A SIMPLIFIED & STREAMLINED SEISMIC DESIGN METHODOLOGY

55.9% approves the streamlined seismic design methodology, **11.9%** declines the option, and **32.2%** had no preference.



CONDITION ASSESSMENTS

72.1% HAVE PERFORMED EXISITING BUILDING ASSESSMENTS

72.1% have performed existing building assessments, **27.9%** have not performed existing building assessments.

DO YOU OR YOUR FIRM HAVE INTERNAL BUILDING ASSESSMENT GUIDELINES?

33.7% Yes

66.3% No

DO YOU OR YOUR FIRM HAVE INTERNAL BUILDING ASSESSMENT REPORT WRITING GUIDELINES?

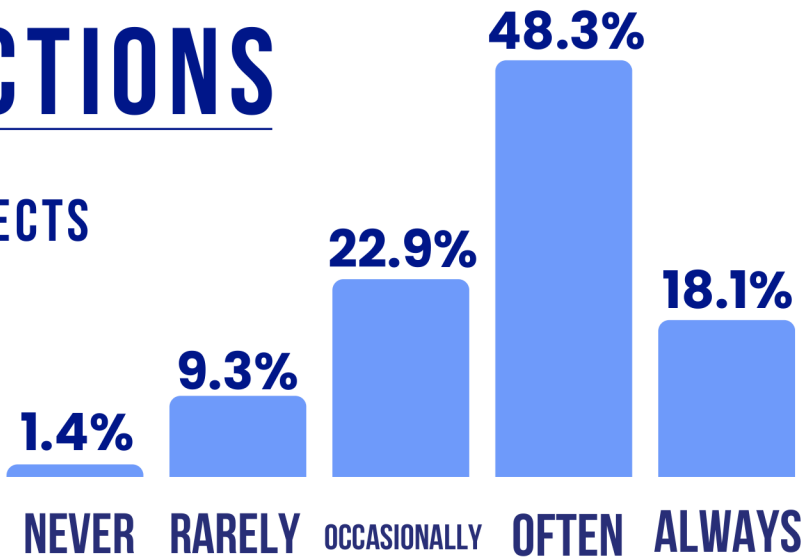
42.8% Yes

57.2% No

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ON PROJECTS ARE ADEQUATELY ENFORCED

48.3% OFTEN



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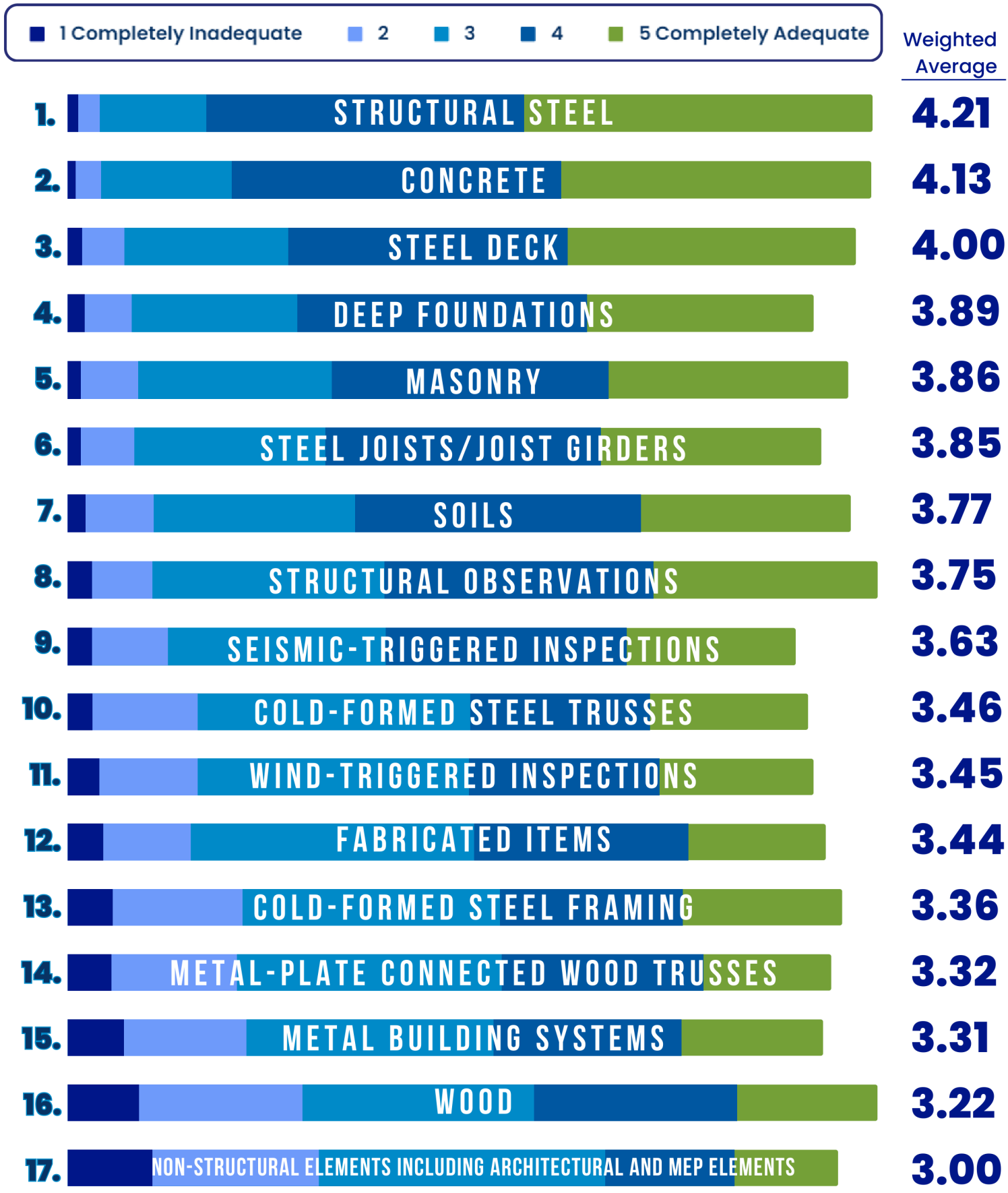
ADEQUACY OF CURRENT PROVISIONS



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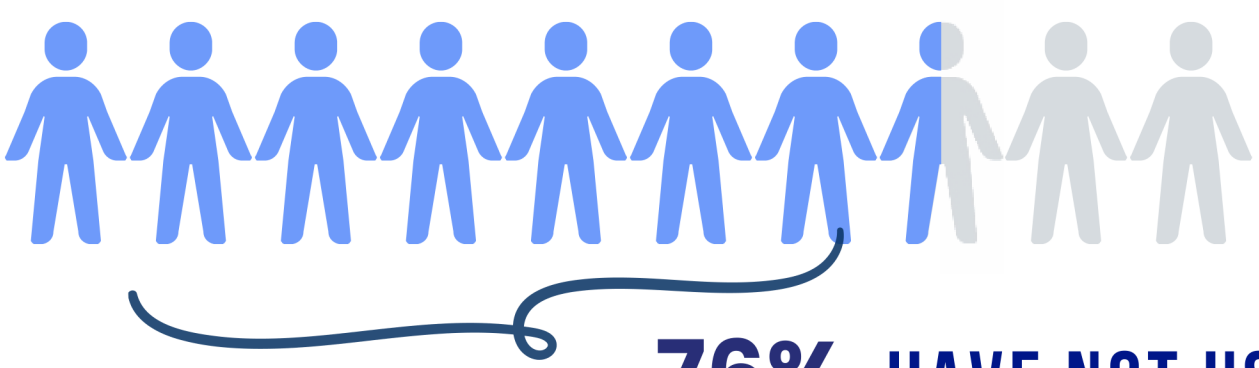
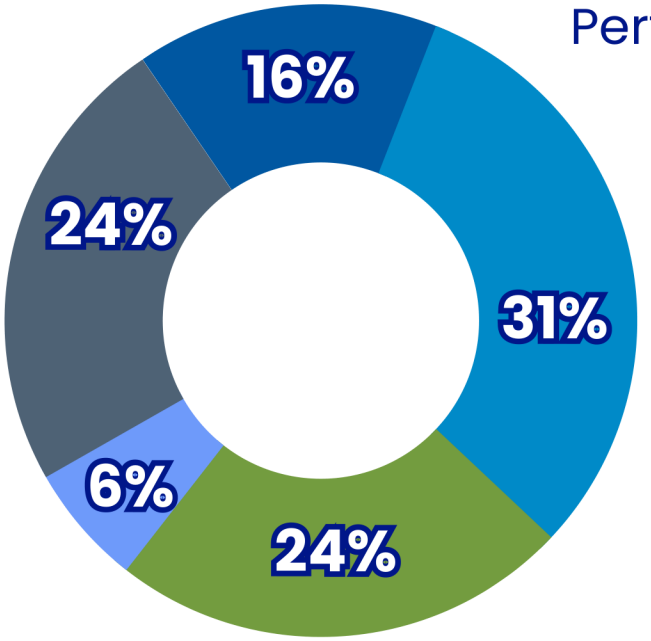
PERFORMANCE BASED DESIGN



76% HAVE NOT USED

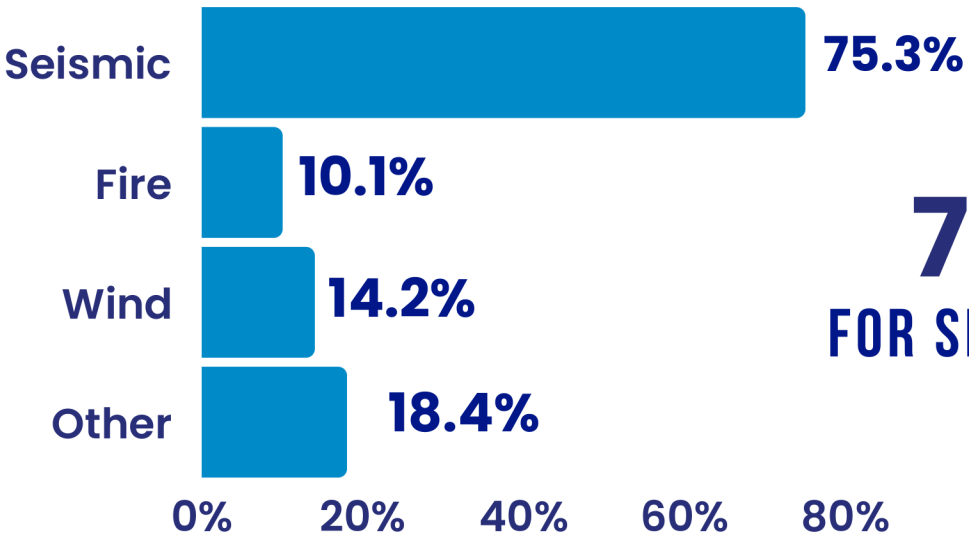
Performance-Based Design (PBD)



RESPONDENTS WHO HAVE NOT USED PBD

16%	LACK OF SUFFICIENT PROJECT FEE
31%	LACK OF KNOWLEDGE HOW TO APPLY PBD
24%	NO INTEREST FROM CLIENT
6%	NO INTEREST AS AN ENGINEER/DESIGN FIRM
24%	PROJECTS WOULD NOT BENEFIT FROM PBD

RESPONDENTS WHO HAVE USED PBD



75.3%

FOR SEISMIC HAZARDS

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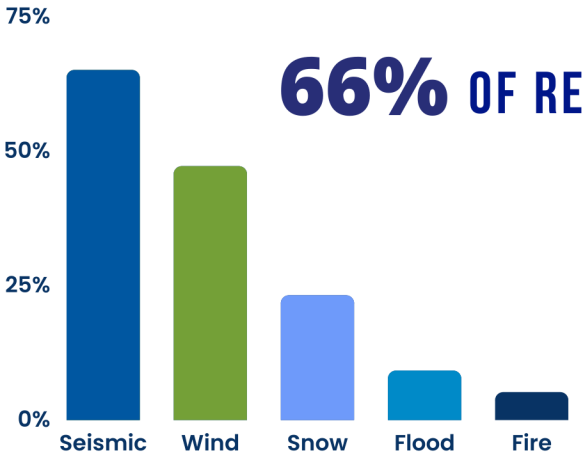
BETTER THAN CODE/RESILIENCE



66% OF RESPONDENTS HAVE BEEN ASKED TO PROVIDE A "BETTER THAN CODE MINIMUM" DESIGN

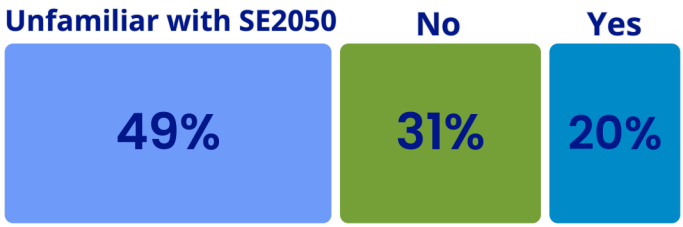
Of the 66% of respondents who have been asked to provide a "better than code minimum" design, selected 65% Seismic, 45% Wind, 23% Snow, 9% Flood, and 5% Fire.

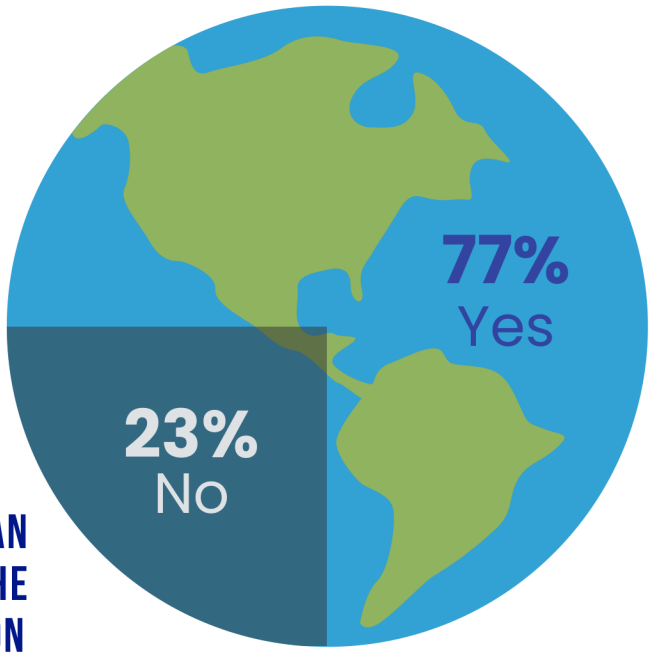
83% OF THE RESPONDENTS WHO HAVE BEEN ASKED TO PROVIDE A "BETTER THAN CODE MINIMUM" DESIGN were at a Client's request

The remaining 16% was split evenly between 8% as a government requirement and 8% as a personal choice.

SUSTAINABILITY

HAS YOUR FIRM SIGNED ON TO THE SE2050 CHALLENGE?





20% HAVE SIGNED ON TO THE SE2050 CHALLENGE

77% BELIEVE SUSTAINABILITY IS AN IMPORTANT AREA OF FOCUS FOR THE STRUCTURAL ENGINEERING PROFESSION

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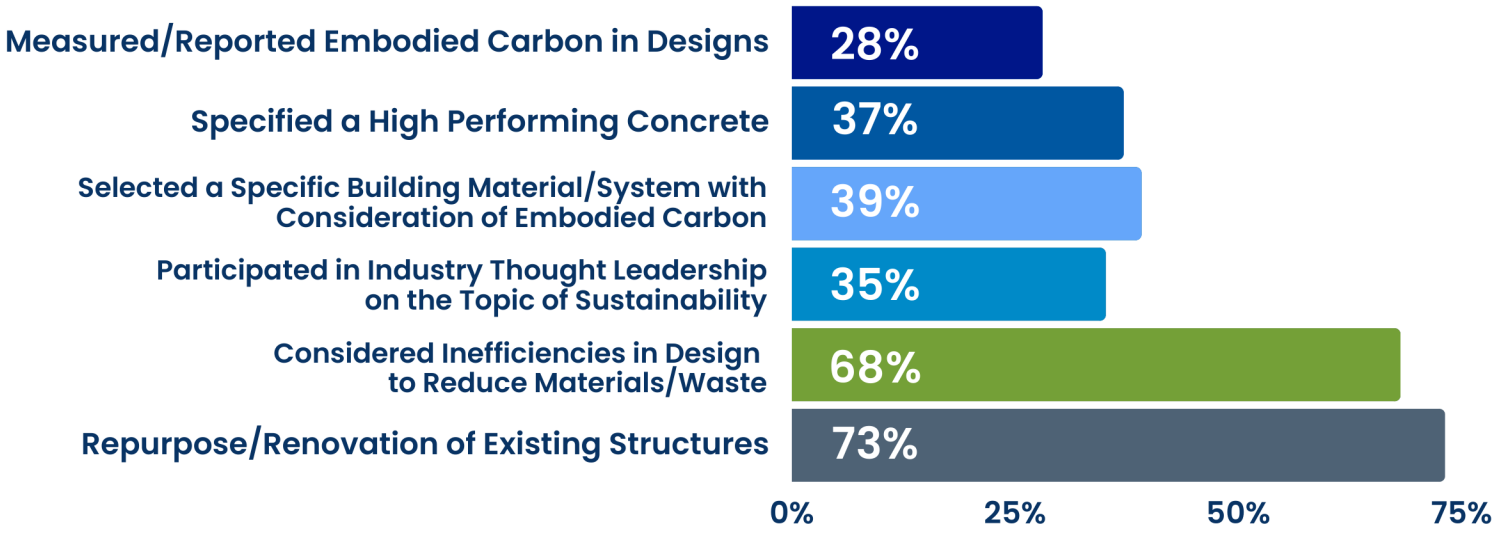
METHODS FIRMS HAVE EMPLOYED TO IMPROVE SUSTAINABILITY IN DESIGNS



CLIMATE ADAPTATION

Environmental design loads (snow, wind, ice, rain, flood) have traditionally been based on historical data.

77% BELIEVE THAT CLIMATE IMPACTS/FUTURE CONDITIONS SHOULD BE CONSIDERED WHEN ESTABLISHING ENVIRONMENTAL LOADS IN FUTURE EDITIONS OF ASCE 7

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