

# ISO 21105-1:2019-11 (E)

## Performance of buildings - Building enclosure thermal performance verification and commissioning - Part 1: General requirements

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	Scope .....	1
2	Normative references .....	1
3	Terms and Definitions .....	1
4	Commissioning process .....	3
5	Risk assessment to determine the level of BECx .....	5
6	Levels of BECx program .....	7
7	Phases of BECx program .....	8
7.1	General .....	8
7.2	Predesign phase .....	8
7.2.1	General .....	8
7.2.2	Predesign scope of work .....	9
7.2.3	BECx project team .....	9
7.2.4	Owner's project requirements - building enclosure .....	9
7.2.5	BECx introductory meeting .....	10
7.2.6	BECx budget .....	11
7.2.7	BECx tasks .....	11
7.2.8	BECx plan .....	12
7.2.9	Basis of design review .....	12
7.2.10	BECx progress report .....	12
7.3	Design phase .....	12
7.3.1	General .....	12
7.3.2	Design phase meeting .....	12
7.3.3	Level 1 (basic) BECx design review .....	13
7.3.4	Level 2 (intermediate) BECx design review .....	14
7.3.5	Level 3 (comprehensive) BECx design review .....	15
7.3.6	BECx specification .....	16
7.3.7	OPR and Cx plan updates .....	16
7.4	Construction phase .....	16
7.4.1	General .....	16
7.4.2	Construction phase documentation requirements .....	17
7.4.3	Level 3 (comprehensive) review of bid documents .....	17
7.4.4	Construction phase introductory meeting .....	17
7.4.5	Checklists .....	17
7.4.6	Building enclosure maintenance manual .....	17
7.4.7	Construction phase BECx program tasks .....	17
7.5	Occupancy phase .....	20
7.5.1	General .....	20
7.5.2	BE assembly maintenance manual .....	20
7.5.3	Facility staff training .....	20
7.5.4	Ten-month warranty review .....	20
7.5.5	Building enclosure monitoring/on-going commissioning .....	20

<b>7.5.6</b>	<b>Building enclosure continuing facility requirements (CFR)</b> .....	<b>21</b>
<b>7.5.7</b>	<b>Final (updated) BECx report</b> .....	<b>21</b>
<b>Annex A (informative)</b>	<b>Building enclosure risk factors</b> .....	<b>22</b>