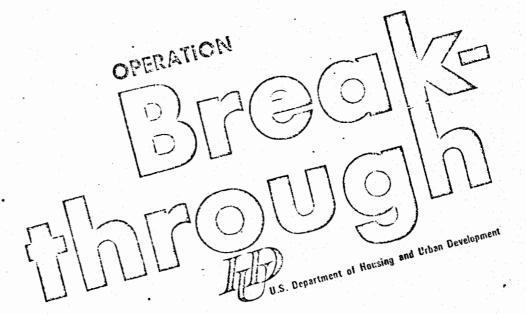
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GUIDE AND FORMAT FOR THE
PREPARATION OF A HOUSING SYSTEM
TESTING AND ANALYSIS PROGRAM
FOR
OPERATION BREAKTHROUGH
HOUSING SYSTEMS

A PRELIMINARY REPORT

VOLUME IV - SINGLE FAMILY DETACHED

Guide and Format for the Preparation of a Housing System Testing and Analysis Program

for:

OPERATION BREAKTHROUGH HOUSING SYSTEMS

A Preliminary Report Volume IV - Single Family Detached

by The Building Research Division Team
E.O. Pfrang, Manager

NBS PROJECT 4213400-421.00

Prepared for Office of Research and Technology Department of Housing and Urban Development Washington, D.C. 20410

U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS REPORT

Guide and Format for the Preparation of a Housing System Testing and Analysis Program

1. Introduction

The purpose of this document is to guide and assist the Housing System Producer (HSP) in his preparation of the required testing and analysis program. This program should indicate the procedures that will be used to demonstrate that the performance levels as stated in the HUD Guide Criteria* developed for Operation BREAKTHROUGH will be satisfactorily met.

The information is to be submitted in three formats:

- A. TESTING AND ANALYSIS PLAN (See Section 4, Format for Testing and Analysis Plan, on page 3.)
- B. SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM (See Section 5, Summary of Testing and Analysis Program, on page 4.)
- C. SCHEDULE OF PHYSICAL TESTING (See Section 6, Schedule of Physical Testing, on page 6.)

The acceptability of each HSP's testing and analysis program will be determined by HUD from the above data and the program shall be revised by the HSP if required.

2. Scope of Testing and Analysis Program

A program for each proposed housing type requiring independent consideration (Multifamily High Rise, Multifamily Low Rise, Single Family Attached, or Single Family Detached) should be submitted. To expedite approval,

^{*(}Guide Criteria for Design and Evaluation of: Operation BREAKTHPOUGH Housing Systems, Volumes I through IV.)

the testing and analysis program shall contain adequately documented and detailed information. It will not be sufficient to merely state that a physical test will be conducted. The testing and analysis program shall include specific information on the tests to be conducted, the test methods to be used, the components or modules to be selected for testing, etc. When documented evidence of previous testing is proposed for use in the HUD evaluation, information giving the source of the document, an outline of the testing and analysis procedure used, and the identity of the testing authority must be included.

Testing and analysis is not intended for the purpose of developing and/or improving the design of system components.

3. General Guidelines for the Testing and Analysis Program

Compliance with any criterion should be demonstrated by one or more of the following:

.

- A. Review of plans and specifications.
- B. Review of previous documented testing.
- C. Accepted certification or standards.
- D. Professional judgment based upon previously documented user-experience.
- E. Analysis by rational application of engineering and scientific principles including calculations as required.
- F. Physical examination or testing of materials, components, modules, living units or complete buildings.
- G. On-site evaluative measurement in or of complete buildings.

Most of the criteria can be satisfied through professional judgment based upon documented prior experience, examination of plans and specifications, and/or computational analysis. Physical testing should be proposed when sufficient information cannot be adequately obtained by other means; or when testing is a more acceptable means (time, cost, etc.) for demonstrating compliance with criteria.

Since environmental exposure will vary with geographic locale, design information on load levels such as snow, wind and thermal or earthquake severity, etc., should be given in detail. If the housing system is to be applicable for a wide range of conditions or is to be limited to specific geographic regions, statements to that effect should be made and evidence provided to clearly indicate that extreme load conditions either have or have not been taken into account.

4. Format for Testing and Analysis Plan

As part of the overall testing and analysis program, an individual testing and analysis plan shall be prepared by the HSP for each criterion which explains in detail how he plans to demonstrate that the intent of each criterion has been or will be satisfied (see Figure 1, SAMPLE TESTING AND ANALYSIS PLAN). As mentioned in Section 2, on page 1, and Section 3, on page 2, the information shall include the following when applicable:

- A. Identification or related drawings, plans and specifications.
- B. Type, number, style, size of specimen(s), etc.
- C. Test methods to be used including special conditions, testing organizations, etc.
- D. Evidence of conformance with recognized standards.
- E. Documentation attesting to previous applicable certification and/or testing.
- F. Calculation methods used and actual calculations.

- G. Documentation attesting to pertinent experience data.
- H. Other information relative to the particular criterion.

The testing and analysis plans shall be prepared on 8 1/2" x 11" or 8 1/2" x 14" sheets (leaving a margin of at least 1" on the left side) which shall be grouped by HUD Guide Criteria Matrix intercept (A.1, A.2, L.9. See Figure 2). Each intercept grouping should be annotated with the name of the HSP, the building type, and the number of abbreviated title of the criterion to which it relates as listed in the attached SUMMARY FORMS. The criterion numbers are those in the HUD Guide Criteria which should be consulted for details of each criterion.

5. Summary of Testing and Analysis Program

The summary listing of the proposed testing and analysis program to be prepared by the HSP will provide an overview of the various tasks and will permit scheduling of activities. Listing of criteria are provided on the attached SUMMARY FORMS which give criterion numbers and abbreviated performance statements. Figure 3 is a sample showing how this form can be completed. Information on this SUMMARY FORM is divided into two categories.

Category I, Evaluation of Plans and Specification and Documentation, includes those evaluations which are proposed to be made by either:

- A. Review of plans and specifications,
- B. Analysis by rational application of engineering and scientific principles, or
- C. Analysis of previous test results or approved Industry Certification.

Category II, Evaluation of Physical Elements, should include those evaluations which are proposed to be made by:

A. Professional judgment based on examination of components and/or assemblies, or

B. Physical testing and analysis of results.

Under the first column of Category I, Review of Plans and Specifications, a check mark will be sufficient. For the other columns of Category I and Category II the identity of the specimen(s) is needed. The specimen(s) should be identified by one of the following symbols:

Ma - for materials,

H - housing unit, and

C - component

Hs - housing system.

M - module

Material is any single element such as surface coating for floor, wall, etc. Component is an assembly of elements such as: a mechanical system, composite wall panel, window assembly, etc. Module is a volumetric assembly having walls, ceiling and floor. Housing unit is an assembly of modules and/or components making up at least one complete living unit. Housing system is a complete structure errected on site.

Where the treatment of some criteria has been completed, the specimen(s) symbol should be circled.

There may be some criteria which will not be applicable for certain types of construction. In these cases mark "NA" as appropriate under Categories I and II.

6. Schedule of Physical Testing

If physical testing is proposed, a schedule shall be prepared and submitted to assure the adequate planning of this phase. This schedule shall follow the format outlined in Figure 4.

The test schedule shall include only tests or groups of tests which require a specimen to be specially procured or fabricated for the purpose of performing physical tests.

The test schedule prepared should be hardware oriented, by specimen. The schedule shall show by a dashed line the manufacturing or procurement lead-time for each specimen and the shipment of specimens to the test

facility. The total testing time required shall be shown by a solid line (including errection, instrumentation and test time) and the analysis time required after each test shall be shown by a dotted line. A particular specimen (module, component, etc.) may be used concurrently or in sequence to demonstrate adequacy with respect to more than one criterion. Scheduling should be by calendar week estimating start and completion dates. The overall schedule will be used to assure that the procurement of sufficient number of test specimens are contemplated for the performance of the required tests in the overall time frame of the program.

7. Recommended Testing Laboratories

For each test which must be conducted as shown on the SCHEDULE FOR PHYSICAL TESTING, Figure 4, the proposed testing laboratory along with alternate testing organizations should be identified. If consultants are used, the consultant, or consulting firm, along with alternates should be also identified.

In considering possible testing facilities, it should be noted that Federal laboratories with applicable capabilities are available and may be utilized in this program. Agreements have been reached, or are contemplated, making available the facilities of the National Bureau of Standards, Gaithersburg, Maryland, the Forest Products' Laboratory, Madison, Wisconsin, the Naval Civil Engineering laboratory, Port Hueneme, California, and the Army Construction Engineering Research Laboratory, Champaign, Illinois.

8. List of Required Submittals

As descibed in this document, three separate submittals comprising the proposed testing and analysis program are to be prepared:

- A. TESTING AND ANALYSIS PLANS; on 8 1/2" x 11" or 8 1/2" x 14" sheets, grouped by matrix intercept.
- B. SUMMARY FORMS FOR TESTING AND ANALYSIS PROGRAM (one set for each building type).
- C. SCHEDULE OF PHYSICAL TESTING.

TESTING AND ANALYSIS PLAN

-Housing System Producer XYZ Corporation

Building Type Multifamily High Rise

E.7.3.1 Air Infiltration through exterior Wall System

- 1. Propose to use window assembly (No. 24A), door assembly (No. 31C) and preformed panel wall system (Model No. 313).
- 2. Scale drawings and detailed specifications of test specimens will be furnished.
- 3. Test has been conducted at the "Universal Testing Laboratory", Tucson, Arizona. NAAM! Interim Standard TM-1-68T (4.3 Test for Air Infiltration) used. Door assembly not included in test. Test Report #24381, Universal Testing Laboratory, to be furnished.
- 4. Door assembly will be described by detailed drawings and will be tested at "ABC Testing Laboratories", Denver, Colorado, or other testing laboratory meeting your approval, using ASTM E-283 Test Method; or a door assembly having a previously certified performance level and satisfying the criteria will be used and appropriate documentation furnished.

Figure 1.

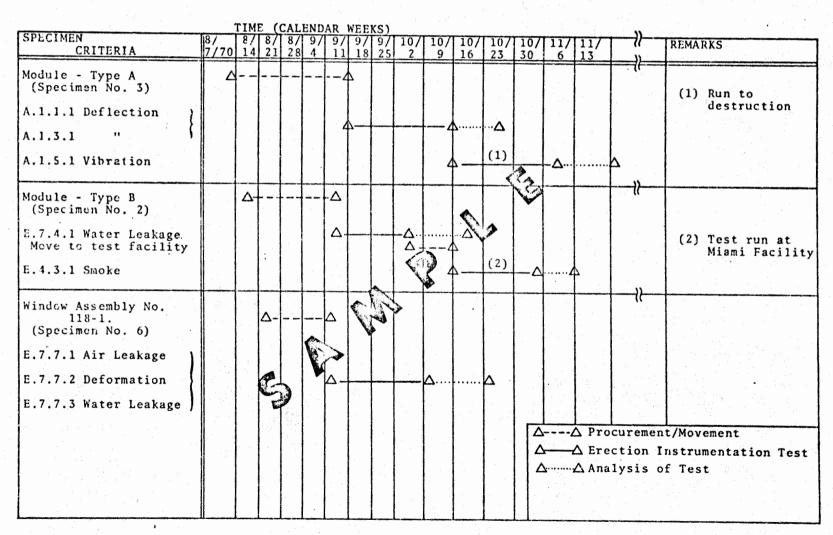
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| ENCLOSED SPACES | ELEMENTS | POWER, ELECTRICAL DISTRIBUTION, COMMUNICATIONS | MECHANICAL EQUIP- MENT, APPLIANCES | PLUMBING | FIXTURES AND HARDWARE | ROOF-CEILING, GROUND FLOOR | WALLS, DOORS AND WINDOWS | FLOOR- CEILING | AND DOORS, INTRA-DWELLING | WALLS AND DOORS, INTER-DWELLING | STRUCTURE | Elements | Built | |
| - | 7 | Con | \$26.05B | 510 | O | * 71 | ra | O | 0 | 53 | D | S | | |
| | | | | | | | | | | | | georgia. | STRUCTURAL SERVICEABILITY | |
| | | | | | | | | | | | | N | STRUCTURAL SAFETY | |
| | | | | | | | | 1- | | | | ເມ | HEALTH AND SAFETY | |
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| | | | | | | | | | | | | 0 | ILLUMINATED ENVIRONMENT | ites |
| | | | | | | | | | | | | 7 | ATMOSPHERIC ENVIRONMENT | |
| | | | | | | | | | | | | ငာ | DURABILITY/TIME RELIABILITY (FUNCTION) | |
| | | | | | | | | | | | | 9 | SPATIAL CHARACTERISTICS AND ARRANGEMENT | |

Land Land

| | em Producer: XYZ Corporation | <u> </u> | ategon aluation | | ļ | gory II | SUMMARY FORM FOR | | | |
|--------------|---|---------------------------|---------------------------|------------------------------|-------------|-----------------------|--|--|--|--|
| Building Typ | vilding Type: Multifamily High Rise (Guide Criteria Vol. 1) | | Plans & Specs. | | | sical | TESTING AND ANALYSIS PROGRAM | | | |
| Intercept: | | & Do | ocumentation | | Elements | | Legend | | | |
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | tion | | Ma -Material H -Housing Unit C -Component HS -Housing System M -Module | | | |
| Criteria . | | ew o | Computal Analysis | Test Data/ Industry Ce | Examination | Testing to be Done | (symbol circled) | | | |
| Number | Subject | Revi | Com | Test | Exai | Test be [| Remarks | | | |
| .1.1.1 | Vertical deflection | | | | | | | | | |
| (a) | Performance criteria (1D+1L+C) | | | М | | | | | | |
| • | | | | | | | | | | |
| . * | | | | | > | | | | | |
| .4.3.1 | Floor-ceiling-smoke generation | | <i>`</i> | | | С | | | | |
| • | | (D) | 1 | | | | | | | |
| • | Air infiltration through wall system | 120 | | | | | | | | |
| .7.3.1 | Air infiltration through wall system . | > | | (0) | | | All tests documented except door infiltration | | | |
| • | | | | | | | | | | |
| • | | | | | | | | | | |
| .8.1.1. | Service life of roofing | | | 0 | С | | Systems available for examination | | | |
| | | | | | | | | | | |
| • | | | | | | | | | | |
| .8.2.1 | Water penetration-resistance of roofing | | | | | С | | | | |
| • | | | | | l | | | | | |
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SCHEDULE OF PHYSICAL TESTING



| Housing System Producer: | | | ategon | | Cate | gory II | SUMMARY FORM FO | | |
|--|---|---------------------------|-----------------|------------------------------|----------------------|-----------------------|--|--|--|
| Building Type: Single Family Detached (Guide Criteria Vol. IV) | | | | Evaluation of Plans & Specs. | | | TESTING AND ANALYSIS PROGRAM | | |
| Intercept: A.1 Structure/Structural Serviceability | | | & Documentation | | Physical Elements | | Legend | | |
| | | | ations/ | Test Data/ Industry Cert. | Examination | 2 . | Ma -Material H -Housing Unit C -Component HS -Housing System M -Module | | |
| Criteria | | Review of Plans/Specs. | mput alysi | st Da lustry | C E | Testing to be Done | (symbol circled) | | |
| Number | Subject | Re | S & | Tes Ind | X | 3. ez | Remarks | | |
| .1.1.1(a) | Structure/Vert. Deflect Performance Criteria | 1. | | | | | | | |
| (b)1 | " - floor (1D+1L) | | | | | | | | |
| 2 | " - roof (1D+1L) | | | | | | | | |
| 3 | " - floor (1D+1D+creep) | | | | | | | | |
| 4 | " - roof (1D+1L+creep) | | | | | | | | |
| .1.2.1 | Structure/Drift (0.9D+1W) | | | | | | | | |
| .1.2.2 | Structure/Drift (1D+1L+0.8W) | | | | 4.1 | | | | |
| .1,3,1(a) | Structure/Horiz, Deflect Performance Criteria | | | | | | | | |
| (b)_ | ". " - Exterior Walls | | | | | | | | |
| 1 | (0.9D+1W) | | | | | | | | |
| 2 | (1D+1L+0.8W) | | | | | | | | |
| (c) | Structure/Horiz, Deflect Interior Walls | | | | | | | | |
| 1 | (1D+1L) | | | | | | | | |
| 2 | (10+5psf) | | | | | | | | |
| .1.4.1 | Structure/Foundation Settlement (1D+1L) | | | | | | | | |
| | A.1 Intercept continued on next page | | | | | | | | |

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| Building Typ | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: A.1 (Continued) | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of vsical ments | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | | |
|--------------|--|---------------------------|--|------------------------------|-------------|-------------------------------|---|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | | |
| Number | Subject | र्व के | 0 4 | 무호 | Ä | , <u>e</u> .e | Remarks | | |
| .1.5.1(a) | Structure/Vibrations - Transient (251b x 3ft) | | | | | | | | |
| (b) | " - Steady-state | | | | | | | | |
| (c) | " - Environmental | | | | | | | | |
| .1.6.1(a) | Structural Elements/Local Damage - Vertical | | | | | | | | |
| (b) | " - Horizontal | | | | | | | | |
| .1.7.1 | Structure/Expansion and Contraction | | | | | | | | |
| (a) | Performance Criteria | | | | | | | | |
| (b) | Deflections | | | | | | | | |
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| Building Typ | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: A.2 Structure/Structural Safety | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of rsical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|---------------------------------------|--|---------------------------|---|------------------------------|-------------|-------------------------------|--|--|
| Criteria | | Review of Plans/Specs. | nputations/ alysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) | |
| Number | Subject | Pia Pia | P Q | Tes | × | Tes be | Remarks | |
| A.2.1.1 | Structure/Load Capacity | | | | | | | |
| (a) | 1.4D+1.7L | | | | | | | |
| (b) | 0.9D+1.3W | | | | | | | |
| (c) | 0.9D+1.45E | | | | | | | |
| (1) | 1.1D+1.3L+1.3W | | | | | <u> </u> | | |
| (e) | 1.1D+1.3L+1,45E | | | | | | | |
| (f) | 0.9D+1.7Q | | | : | | | | |
| A.2.1.2 | Structure/Effect of creep and inelastic deflections on load capacity | | | | | | | |
| A.2.2.1 | Structure/Load capacity under repeated loading | | | | | | | |
| (a)1 | 100 cycles: 1D to (1D+0.5L) | | | | | | | |
| 2 | 1000 cycles: 1D to (1D+0.5W) | | | | | | | |
| (b) | 5 cycles: (1D+E) to (1D-E) | | | | | | | |
| | | | | | | | and the second | |
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| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | A.2 Intercept continued on next page | | | | | | | |

| Building Type | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: A. 2 (Continued) | | Category 1 Evaluation of Plans & Specs. & Documentation | | | gory II ation of rsical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | | |
|---------------|---|---------------------------|--|------------------------------|-------------|--|---|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module | | |
| Number | Subject | Revi | Com | Test | Exai | Test be C | Remarks | | |
| A.2.3.1 | Structure/Sustained loading (1.2D+1.5L) for 24 hours | | | | | | | | |
| (a)1 | dv | | | | | | | | |
| .2 | dh | | | | | | | | |
| (b)1 | dvr | | | | 4. 4.1 | | | | |
| 2 | Dvr | | | | | | | | |
| A.2.5.1 | Structure/Effect of differential foundation settlement on load capacity | | | | | | | | |
| A.2.6.1 | Structure/Capacity of inserts and hangers | | | | | | | | |
| (,a) | Ceilings | | | | | | | | |
| (b) | Structural members | | | | | | | | |
| A.2.7.1 | Capacity reduction by cutting for utilities | | | | | | | | |
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| Building Ty | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: A.4 Structure/Fire Safety | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of rsical ments | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | | |
|-------------|--|------------------------|--|---------------------|-------------|--|---|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Data/ stry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | | |
| Number | Subject | Rev Plar | Con | Tes | Exa | Tes be | Remarks | | |
| A.4.1.1 | Structural Components - Fire Resistance | | | | | | | | |
| A.4.1.2 | " Connections - " " | | | | | | | | |
| A.4.3.1 | Sprayed fire protection | | | | | | | | |
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| Housing Syste | em Producer: | L | ategor | | | gory II | SUMMARY FORM FOR | | |
|--|---|---------------------------|--------|--|-------------|-----------------------|---|--|--|
| | Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: A.5 Structure/Acoustic Environment | | | Evaluation of Plans & Specs. & Documentation | | | TESTING AND ANALYSIS PROGRAM Legend | | |
| A. J | A.5 Structure/Acoustic Environment | | tions/ | Test Data/ Industry Cert. | ion | | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module — Completed | | |
| Criteria | | Review of Plans/Specs. | nputa | t Date | Examination | Testing to be Done | (symbol circled) | | |
| Number | Subject | Rev | Con | Test | Exa | Tesi | Remarks | | |
| 1.5.1.1 | Structure borne noise | | | | | | | | |
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| Building Typ | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept A.8 Structure/Durability/Time Reliability | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | | |
|--------------|---|---------------------------|--|------------------------------|-------------|---------------------------------------|---|--|--|
| Criteria | (Function) | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | | |
| Number | Subject | Re Pla | Co A | Tes | Ä | Tes be | Remarks | | |
| A.8.1.1 | Eliminate continuous voids | | | | | | | | |
| A.8.1.2 | Provide adequate vapor barriers and ventilation | | | | | | | | |
| A.8.2.1 | Structural/time reliability | | | | | | | | |
| A.8.3.1 | Static and dynamic deflections | | | | | | | | |
| 4.5 | | | | | | | | | |
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| Housing Sys | item Producer: | | Category I | | | gory II | SUMMARY FORM FOR | | | |
|--------------|--|---------------------------|------------------------------|------------------------------|-------------|-----------------------|--|--|--|--|
| Building Typ | Building Type: Single Family Detached (Guide Criteria Vol. IV) | | Evaluation of Plans & Specs. | | | ation of sical | TESTING AND ANALYSIS PROGRAM | | | |
| Intercept: C | .1 Interior Space Dividers-Walls and Doors, | & Documentation | | | Elements | | Legend | | | |
| | Intra-Dwelling/Structural Serviceability | SG. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | | Ma - Material H - Housing Unit C - Component HS - Housing System | | | |
| Criteria | | Review of Plans/Specs. | | | | Testing to be Done | M -Module -Completed (symbol circled) | | | |
| Number | Subject | Plan | Com | Test | Exa | Test be 0 | Remarks | | | |
| C.1.1.1 | Intra-dwelling walls/deflections - load supporting | | | | | | | | | |
| C.1.1.2 | Intra-dwelling walls/deflections - non-load supporting | | | 10 | | | | | | |
| C.1.2.1 | Intra-dwelling walls/foundation settlement | | | | | | | | | |
| C.1.3.1 | " " /local damage | | | | | | | | | |
| (a) | 150 lb anywhere | | | | | | | | | |
| (b) | 200 lb 3in above floor | | | | | | | | | |
| (c) | 10 psf | | | | | | | | | |
| (d) | Attached shelves or 40 lb/ft at eccentricity of 6in + t/2 | - | | | | | | | | |
| (e) | Impact | | | | | | | | | |
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| Housing Syst | em Producer: | C | ntegor | y I | Cate | gory !! | SUMMARY FORM FOR |
|---------------|--|--|---------------------------|------------------------------|------------------------|-----------------------|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. & Documentation | | | | ation of | TESTING AND ANALYSIS PROGRAM |
| Intercept: C. | 2 Interior Space Dividers-Walls and Doors, | | | | Physical – Elements | | Legend |
| | Intra-Dwelling/Structural Safety | 9 | / suoi | er. | uo | | Ma - Material H - Housing Unit C - Component HS - Housing System |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Ceri. | Examination | Testing to be Done | M -Module — Completed (symbol circled) |
| Number | Subject | Plan | Com | Test | Exa | Test be | Remarks |
| C.2.1.1(a) | Intra-dwelling walls/load capacity - load . supporting | | | | | | |
| (b) | Intra-dwelling walls/transfer of loads - non-load supporting | | | | | | |
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| Housing Syste | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) | | | / 1 | Cate | gory II | SUMMARY FORM FOR | |
|----------------|--|-----------------------------------|---------------------------|---------------------------------|-------------|-----------------------|--|--|
| | | | | Evaluation of Plans & Specs. | | | TESTING AND ANALYSIS PROGRAM | |
| Intercept; C.4 | Interior Space Dividers-Walls and Doors, | & Docu | | cumentation | | rsical nents | Legend | |
| | Intra-Dwelling/Fire Safety | | | ert. | u o | | Ma - Material H - Housing Unit C - Component HS - Housing System | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Cone | M -Module -Completed (symbol circled) | |
| Number | Subject | Rev Flar Com Ano Inda | EX | je s | Remarks | | | |
| C.4.1.1 | Intra-dwelling walls - fire stops | | | | | | | |
| C.4.2.1 | " - flame spread | | | | | | | |
| C.4.3.1 | " - smoke generation | | | | | | | |
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| Housing Sys | tem Producer: | | Category 1 | | | gory II | SUMMARY FORM FOR | | |
|-------------------------------------|--|---------------------------|---------------------------|------------------------------|------------------------|--------------------------------|---|--|--|
| Building Typ | e: Single Family Detached (Guide Criteria Vol. IV) | | valuation of ans & Specs. | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | | |
| Intercept: C. | 5 Interior Space Dividers-Walls and Doors, | & Documentation | | Elements | | Legend | | | |
| Intra-Dwelling/Acoustic Environment | | , s | ions/ | ert. | u oi | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed | | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Examination Testing to be Done | M -Module -Completed (symbol circled) | | |
| Number | Subject | Rev | Con | Test | Exa | lest be | Remarks | | |
| C.5.1.1 | Intra-dwelling walls - airborne noise | | | | | | | | |
| C.5.1.2 | " noise isolation between | | | | | | | | |
| | enclosed spaces | | | | | | | | |
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| Housing Sv | stem Producer: | Category I | | | Category II | | SUMMARY FORM FOR | |
|--------------|--|---------------------------|---------------------------|------------------------------|------------------------|-----------------------|--|--|
| | pe: Single Family Detached (Guide Criteria Vol. IV) | | luction is & Sp | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | |
| Intercept: C | Intercept: C.8 Interior Space Dividers-Walls and Doors, Intra-Dwelling/Durability/Time Reliability (Function) | | | | Elements | | Legend | |
| | | | | | tion | 8 | Ma-Material H -Housing Unit C -Component H5 -Housing System M -Module ()-Completed | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | (symbol circled) | |
| Number | Subject | Rev | Cor | Tes | Exa | Tes be | Remarks | |
| C.8.1.1 | Performance of the final finish | | | | | | | |
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Category I Category II Housing System Producer: SUMMARY FORM FOR **Evaluation of** Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Intercept: D.1 Interior Space Dividers-Floor-Ceiling/ Elements H -Housing Unit Ma -Material Computations/ Analysis Structural Serviceability Test Data/ Industry Cert. HS -Housing System C -Component Examination Testing to be Done M -Module Completed Criteria (symbol circled) Number Subject Remarks D.1.1.1 Floor-ceiling assembly/deflections 0.1.2.1/foundation settlement Local damage/structural vibrations - floors D.1.3.1(a) /steady-state vibrations - ceiling (b) Local damage to floor-ceiling assembly 0.1.4.1 750 ft-1b impact (a) 400 lb concentrated load Ceilings - 5D or 4 psf Local damage to protruding elements 500 1b D.1.5.1 horizontally

Category I Category II Housing System Producer: SUMMARY FORM FOR Evaluation of **Evaluation of** TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Elements Intercept: D.2 Interior Space Dividers-Floor-Ceiling/ Ma -Material H -Housing Unit Cemputations/ Analysis Structural Safety C -Component HS -Houring System Examination ()-Completed Testing to be Done M -Module Criteria (symbol circled) Number Subject Remarks D.2.1.1 Floor-ceiling/load capacity

| Housing Su | stem Producer: | Category 1 | | | Category II | | SUMMARY FORM FOR |
|------------|---|--|---------------------------|------------------------------|---------------------------------------|-----------------------|---|
| | pe: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. & Documentation | | | Evaluation of Physical Elements | | TESTING AND ANALYSIS PROGRAM |
| | .4 Interior Space Dividers-Floor-Ceiling/Fire | | | | | | Legend |
| | Safety | | Computations/ Analysis | Test Data/ Industry Cert. | noi | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed |
| Criteria | | Review of Plans/Specs. | iputa itysis | Date | Examination | Testing to be Done | (symbol circled) |
| Number | Subject | Rev | Con | Test | Exa | Test be (| Remarks |
| D.4.1.1 | Floor-ceiling - fire endurance | | | | | | |
| D.4.2.1 | " " - flame spread | | | | | | |
| D.4.3.1 | " - smoke generation | | | | | | |
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Category 1 Category II Housing System Producer: SUMMARY FORM FOR **Evaluation of Evaluation of** TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Intercept: D.5 Interior Space Dividers-Floor-Ceiling/ Elements Ma -Material H -Housing Unit Computations/ Analysis Test Data/ Industry Cert. Acoustic Environment HS -Housing System C -Component Examination Testing to be Done ()-Completed M -Module Criteria (symbol circled) Number Subject Remarks Floor-ceiling assembly/sound transmission and impact insulation D.5.2.1 Multi-level dwelling/noise isolation and impact insulation D.5.2.2

| Housing Sy | stem Producer: | C | ategon | <i>y</i> 1 | Categ | ory II | SUMMARY FORM FOR |
|--------------|---|------------------------------|---------------------------|------------------------------|------------------------|-----------------------|--|
| | pe: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. | | | | tion of | TESTING AND ANALYSIS PROGRAM |
| Intercept: [| 0.8 Interior Space Dividers-Floor-Ceiling/ | | cumen | | Physical - Elements | | Legend |
| | Durability/Time Reliability (Function) | ecs. | Computations/ Analysis | Cert. | noi | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module () - Completed |
| Criteria | | Review of Plans/Specs. | Computa Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module ——Completed (symbol circled) |
| Number | Subject | Rev | Co Anc | Test | Exa | Test be | Remarks |
| D.8.1.1 | Flooring, dry areas - dimensional stability | | | | | | |
| D.8.1.2 | " " - indentation | | | | | | |
| D.8.1.3 | " " - bond to substrate | | | | | | |
| D.8.1.4 | " - service life | | | | | | |
| D.8.2.1 | " wet areas - dimensional stability | | | | | | |
| D.8.2.2 | " - indentation | | | | | | |
| D.8.2.3 | " - bond to substrate | | | | | | |
| D.8.2.4 | " - water penetration | | | | | | |
| D.8.2.5 | " - resistance to chemicals | | | | | | |
| D.8.2.6 | " " - wear life | | | | | | |
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| Housing Sy | Housing System Producer: | | ategory | / 1 | Cate | gory ! | SUMMARY FORM FOR |
|--------------|--|---------------------------|--|------------------------------|-------------|-----------------------|---|
| | Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: E.1 Exterior Envelope-Walls, Doors and | | Evaluation of Plans & Specs. & Documentation | | | ation of | TESTING AND ANALYSIS PROGRAM |
| Intercept: E | | | | | | nents . | Legend |
| | Windows/Structural Serviceability | | ions/ | ert. | u o | | Ma-Material H -Housing Unit C -Component HS -Housing System |
| Criteria | | Review of Flans/Specs. | Computations, Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module Completed (symbol circled) |
| Number | Subject | 7: Re | A Co | ies Ind | Exa | Les | Remarks |
| E.1.1.1 | Exterior wall/local damage | | The little | | | | |
| E.1.2.1 | " envelope/horizontal deflections | | | | | | |
| E.1.3.1 | " /foundation settelment | | | | | | |
| E.1.4.1 | Width and movements of joints | | | | | | |
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| Housing Syst | tem Producer: | Cc | elegon | / I | Category II | | SUMMARY FORM FO | |
|------------------|--|--|----------------------------|------------------------------|---------------------------------------|--------------------------------|---|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. & Documentation | | | Evaluation of Physical Elements | | TESTING AND ANALYSIS PROGRAM | |
| Intercept: E . : | 2 Exterior Envelope-Walls, Doors and | | | | | | Legend | |
| - | Windows/Structural Safety | | ions/ | ert. | u o | | Ma-Material H -Housing Unit C -Component HS -Housing System | |
| Criteria | | Review of Plans/Specs. | Computations / Analysis | Test Data/ Industry Cert. | Examination | Examination Testing to be Done | M -Module -Completed (symbol circled) | |
| Number | Subject | Rev | Con | Test Indu | Exa | Test be f | Remarks | |
| E.2.1.1(a) | Exterior wall/load capacity - load supporting | | | | | | | |
| (b) | supporting " - non-load | | | | | | | |
| (c) | Attachment of veneer (5D vertically + 3D horizontally) | | | | | | | |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: E. 4 Exterior Envelope-Walls, Door and | | | Eve Plan | Category I Evaluation of Plans & Specs. & Documentation | | | ory II ition of sical ents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|---|------------------|-----------------------------------|---------------------------|--|-------------|--------------------------------------|--|--|
| Windows/Fire Safety Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Examination Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) | |
| Number | Subject | | 8 2 | ै र | P C | Ë | P e | Remarks |
| E.4.1.1 | Exterior walls - | | _ | | | | | |
| E.4.2.1 | | flame spread | | | | | | |
| E.4.3.1 E,4.5.1 | | smoke generation floor-wall joint | | | | · | | |
| ., 4. 5. 1 | | 11001 - wall joine | | | | | | |
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| Housing Sv | stem Producer: | | | C | ategory | , İ | Cate | gory II | SUMMARY FORM FOR | |
|--------------|------------------------------|----------------------|---------------------------------------|--|---------------------------|------------------------------|---------------------------------------|-----------------------|---|--|
| | pe: Single Family Detache | d (Guide Criteria Vo | ol. IV) | Evaluation of Plans & Specs. & Documentation | | | Evaluation of Physical Elements | | TESTING AND ANALYSIS PROGRAM | |
| Intercept: E | .5 Exterior Envelope-W | alls, Doors and | | | | | | | Legend | |
| | Windows/Acoustic Environment | | | | Computations/ Analysis | Test Data/ Industry Cert. | , io | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed | |
| Criteria | | | | Review of Fians/Specs. | apoto alysis | t Date ustry | Examination | Testing to be Done | (symbol circled) | |
| Number | Subject | | | S S | Cor | Tes | Exa | Tes be | Remarks | |
| 5.5.1.1 | Exterior envelope no | ise attenuation | | | | | | | | |
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| Building Ty | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: E.7 Exterior Envelope-Walls, Doors and Windows/Atmospheric Environment | | Category I Evaluation of Plans & Specs. & Documentation | | | gory !! ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM |
|--------------|--|---------------------------|--|----------------|-------------|---------------------------------------|---|
| Infercept: E | | | Computations/ Analysis | , | tion | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed |
| Criteria | | Review of Plans/Specs. | npute | t Dat ustry | Examination | Testing to be Done | (symbol circled) |
| Number | Subject | P. P. | Co | Tes Ind | Ex | Tes | Remarks |
| E.7.1.1 | Exterior wall winter heat loss | | | | | | |
| E.7.1.2 | Winter total heat loss through windows | | | | | | |
| E.7.1.3 | Exterior wall summer heat gain | | | | | | |
| E.7.1.4 | Heat transmission through exposed ceilings | | | | | | |
| E.7.1.5 | Crawl space plenum heat lose | | | | | | |
| E.7.2.1 | Provisions for thermal breaks | | | | | | |
| E.7.3.1 | Air infiltration through exterior wall system | | | | | | |
| E.7.4.1 | No water leakage through exterior wall system | | | | <u></u> | | |
| E.7.5.1 | " " below grade foundation | | | | | | |
| E.7.6.1 | Warm side vapor barrier | | | | | | |
| E.7.6.2 | " " " for low permeance exterior | | | | | | |
| E.7.7.1 | Window air leakage | | | | | | |
| | Intercept E.7 continued on next page | | | | | | |

| Building Ty | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: E.7 (Continued) | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of vsical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|-------------|--|---------------------------|--|------------------------------|-------------|--|---|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | |
| Number | Subject | Revie | Com | Test Indu | Exam | Testi be D | Remarks | |
| E.7.7.2 | No damage to window assembly from design windload | | | | | | | |
| E.7.7.3 | No water leakage through window assembly | | | | | | | |
| E.7.7.4 | Acoustic requirements for window assembly | | | | | | | |
| E.7.7.5 | Window hardware | | | | | | | |
| E.7,7.6 | Sizes of windows | | | | | | | |
| E.7.8.1 | Door assembly air leakage | | | | | | | |
| E.7.8.2 | No water leakage through door assembly | | | | | | | |
| E.7.8.3 | Acoustic requirement for door assembly | | | | | | | |
| E.7.8.4 | Durability of doors | | | | | | | |
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| Building Ty | ousing System Producer: uilding Type: Single Family Detached (Guide Criteria Vol. IV) ntercept: E.8 Exterior Envelope-Walls, Doors and | | Category I Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|--|---------------------------|--|------------------------------|--|-----------------------|---|
| Criteria | Windows/Durability/Time Reliability (Function) | Review of Plans/Specs. | Computations/ Analysis | Test Data/ industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | Pia. | S A | řesi | Exa | Test | Remarks |
| E.8.1.1 | Effective life of sealants | | | | | | |
| E.8.2.1 | Performance and renewability of finish of exterior walls, doors and windows | | | | | | |
| E.8.2.2 | Protection of exterior metal | | | | | | |
| E.3.2.3 | " " masonry | | | | | | |
| E.8.3.1 | Distortion of exterior cladding | <u> </u> | | | | | |
| E.8.4.1 | Thermal movement of exterior walls, doors and windows | - | | | | | |
| E.8.5.1 | Exterior door warpage | | | | | | |
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| Housing Sy | stem Producer: | | ategor alvatio | - | | gory II | SUMMARY FORM FOR | | |
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| | pe: Single Family Detached (Guide Criteria Vol. IV) | Plo | Plans & Specs. | | | ation of — | TESTING AND ANALYSIS PROGRAM | | |
| Intercept: I | F.1 Exterior Envelope-Roof-Ceiling, Ground | , La D | & Documenta | | Elen | nents | Legend Ma - Material H - Housing Unit | | |
| | Floor/Structural Serviceability | | Computations/ Analysis | Test Data/ Industry Cert. | fion | | C -Component HS -Housing System M -Module ()-Completed | | |
| Criteria | | Review of Plans/Specs. | npute | t Dat | Examination | Testing to be Done | (symbol circled) | | |
| Number | Subject | Rev | Con | lesi Indi | Exa | Tes be | Remarks | | |
| F.1.1.1 | Roof - vertical deflection | | | | | | | | |
| F.1.2.1 | " - vibrations | | | | | | | | |
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| Housing Syste | | | ategory alvation | | ļ | gory II | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM |
|--|--|---------------------------|-----------------------------------|------------------------------|-------------|--------------------|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) 2 Exterior Envelope-Roof-Ceiling, Ground | Plar | Plans & Specs. & Documentation | | | sical — | Legend |
| | Floor/Structural Safety | 33. | ions/ | ert. | u o | | Ma - Material H - Housing Unit C - Component HS - Housing System |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module |
| Number | Subject | P. P. C. | Cor | lnd Ind | Ex | Tes Co | Remarks |
| F.2.1.1(a) | Roof/load capacity - load supporting structure | | | | | | |
| (b) | " " - non-load supporting | | | | | | |
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| Building Ty | ilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: F:4 Exterior Envelope-Roof-Ceiling, Ground | | Category I Evaluation of Plans & Specs. & Documentation | | Evalue Phy | gory II ation of sical | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|---|---------------------------|--|------------------------------|---------------|------------------------|--|
| Criteria | Floor/Fire Safety | Review of Plans/Specs. | putations/ ysis | Test Data/ Industry Cert. | i | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) |
| Number | Subject | Plan | Com | Test | Exan | Testii be D | Remarks |
| F.4.3.1 | Roof-ceiling - flame spread | | *************************************** | | | | |
| F.4.4.1 | " - roofing class | | | | | | • |
| F.4.5.1 | " - smoke generation | | | | | | |
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| Building Ty | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: F.7 Exterior Envelope-Roof-Ceiling, Ground | | ategor Ivation is & Sp cumen | of pecs. | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|---|---|---------------------------------------|-------------|--|---|--|
| Criteria | Floor/Atmospheric Environment | Review of Flans/Specs. Computations/ Analysis Test Data/ Industry Cert. Examination | | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | |
| Number | Subject | Rev | Con | Tes Indv | Exa | Test be | Remarks |
| F.7.1.1 | Flat roof deck construction/moisture or wetting damage | | | | | | |
| F.7.2.1 | Flat roof construction/condensed moisture damage | | | | | | |
| F.7.3.1 | Attic space ventilation | | | | | | |
| F.7.4.1 | Heat transmission through exposed ceiling | | | | | | |
| F.7.5.1 | Vapor barrier under concrete slab-on-grade | | | | | | |
| F.7.6.1 | Crawl space ventilation | | | | | | |
| F.7.6.2 | Ground cover in crawl space | | | | | | |
| F.7.7.1 | Heat loss through floors over unheated spaces | | | | | | |
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Category I Category II Housing System Producer: SUMMARY FORM FOR **Evaluation of** Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Intercept: F.8 Exterior Envelope-Roof-Ceiling, Ground Elements Ma -Material H -Housing Unit Computations/ Analysis Floor/Durability/Time Reliability (Function) Review of Plans/Specs. C -Component **HS**-Housing System Examination Test Data/ Industry Ce Testing to be Done M -Module Completed Criteria (symbol circled) Number Subject Remarks Roofing - service life F.8.1.1 F.8.2.1 - water penetration resistance - wind load F.8.3.1 11 F.8.4.1 - impact

| Building Typ | vilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: F.9 Exterior Envelope-Roof-Ceiling, Ground Floor/Spatial Characteristics and Arrangements | | ategory luation is & Sp cumen | of oecs. | Evalue Phy | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|--------------|---|---------------------------|--|------------------------------|---------------|---------------------------------------|--|
| Criteria | | | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) |
| Number | Subject | Review of Plans/Specs. | Con | Test | Exa | Test be t | Remarks |
| .9.1.1 | Access opening to attic spaces | | | | | | |
| .9.1.2 | " " crawl " | | | | | | |
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| Housing Sys | tem Producer: | | ategon | | Cate | gory II | | SUMM | ARY FORM FOR | |
|---------------|--|---------------------------|------------------------------|------------------------------|------------------------|-----------------------|------------------------------|---------------------------------|--------------|--|
| Building Typ | e: Single Family Detached (Guide Criteria Vol. IV) | | Evaluation of Plans & Specs. | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | | | |
| Intercept: G. | ercept: G.1 Fixtures and Hardware/Structural | | & Documentation | | | nents | Legend | | | |
| | Serviceability | 30. | /suoi | ert. | u o | | | C -Component HS -Housing System | | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Tes: Data/ Industry Cert. | Examination | Testing to be Done | M -Module | (symb | ol circled) | |
| Number | Subject | Rev | Con | Tes | Exa | Tes | Re | marks | | |
| 3.1.1.1 | Fixtures - compatibility with deflections | | | | | | | | | |
| (a) | Vertical deflection | | | | | | | | | |
| (b) | Drift | | | | | | | | | |
| (c) | Horizontal deflection | | | | | | | | | |
| (d) | Settlement | | | | 1 | | | | | |
| G.1.2.1 | Local damage to fixture | | | | | | | | | |
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| Housing Syst | em Producer: | | ategory | | Cate | gory !l | SUMMARY FORM FOR | |
|--------------|--|--|---------------------------|------------------------------|------------------------|-----------------------|---|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) | | Evaluation Plans & Sp | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | |
| | cept: G.2 Fixtures and Hardware/Structural Safety | | & Documentation | | | ients | Legend | |
| | | . S. | Computations/ Analysis | ions/ | 5 | 5 | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed | |
| Criteria | | Review of Plans/Spacs. | nputa | Test Datc/ Industry Cert. | Examination | Testing to be Done | (symbol circled) | |
| Number | Subject | Rey | Con | Test | Exa | Test | Remarks | |
| 3.2.1.1 | Capacity of fixtures to transmit load | | | | | | | |
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| Building Typ | lousing System Producer: puilding Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: G.5 Fixtures and Hardware/Acoustic Environment Criteria | | | | | gory II ation of sical aents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|--------------|---|---------------------------|---------------------------|---|-------------|---------------------------------------|--|
| Criteria | | | Computations/ Analysis | Computations/ Analysis Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) |
| Number | Subject | Review of Plans/Specs. | P G | Tes | Exa | Test be | Remarks |
| G.5.1.1 | Fixtures and hardware/noise generated and transmitted | | | | | - | |
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Category I Category II Housing System Producer: SUMMARY FORM FOR **Evaluation** of **Evaluation** of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Intercept: G. 8 Fixtures and Hardware/Durability/Time Elements H -Housing Unit Ma -Material Computations/ Analysis Reliability (Function) C -Component HS -Housing System Examination Testing to be Done Completed M -Module Criteria (symbol circled) Number Subject Remarks Performance of hardware G.8.1.1 G.8.2.1 Mail boxes and/or slots G.8.2.2 and slots/Post Office requirements G.8.3.1Door bells

| Building Type | ousing System Producer: wilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: II.1 Plumbing/Structural Serviceability | | aluation ns & S _i ocumen | egory I uation of & Specs. umentation | | gory !! ation of ysical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|---------------|--|---------------------------|---|--|-------------|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | Rev | Con | Test | Exa | Test be | Remarks |
| !!.1.1.1(a) | Plumbing system - vertical deflections | | - Visit Mariet | | | | |
| (b) | " - horizontal drift | | | | | | |
| (c) | " - " deflection | | | | | | |
| (d) | " - foundation settlement | | | | | | |
| H.1.2.1 | Plumbing system vibration | | | | | | |
| H.1.3.1(a) | Limit angular rotation of horizontal lines | | | | | | |
| (b) | " " vertical lines | | | | | | |
| (c) | Loads not to impair proper function | | | | | | |
| (d) | No loss of stability or tightness | | | | | | |
| H.1.3.2(a) | Fixture rims and supports to carry load | | | <u> </u> | | | |
| (b) | Center loading of sump | | | | | | |
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| Housing Sys | tem Producer: | | ategor | | | gory II | SUMMARY FORM FOR | |
|-------------|---|---------------------------|---------------------------|------------------------------|------------------------|-----------------------|---|--|
| | oe: Single Family Detached (Guide Criteria Vol. IV) | Evalua Plans 8 | | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | |
| | ntercept: H.2 Plumbing/Structural Safety | | & Documentation | | | nents | Legend | |
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | ioi | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed | |
| Criteria | | ew c | pute | Dat | Examination | Testing to be Done | (symbol circled) | |
| Number | Subject | Plan | Con | Test | Exa | Test be [| Remarks | |
| 11.2.1.1 | Hangers, supports and inserts not to fail | | | | | | | |
| 11.2.2.1 | Structural safety not to be impaired | | | | | | | |
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| Building Typ | ilding Type: Single Family Detached (Guide Criteria Vol. IV) ercept: II.3 Plumbing/Health and Safety | | Category I Evaluation of Plans & Specs. & Documentation | | Evalue Phy | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | | |
|--------------|--|---|--|------------------------------|---------------|---------------------------------------|--|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) | | |
| Number | Subject | Revi | Соп | Test Indu | Εχαι | Testi be D | Remarks | | |
| н.з.1.1 | Minimum fixtures required | 1,0000000000000000000000000000000000000 | | | | | | | |
| H.3.1.2 | Floor drains or equivalent | | | | | | | | |
| 11.3.2.1(a) | Roughed in DWV leak test (static) | | | | | | | | |
| (b) | Finished DWV leak test (static) | | | <u> </u> | | | | | |
| (c) | " " " (dynamic) | | | | | | | | |
| (d) | Interior storm-drainage system watertightness | | | | <u> </u> | | | | |
| (e) | Water supply system watertightness | | | | <u> </u> | | | | |
| (f) | Safe pans and shower drains watertightness | | | | | | | | |
| H.3.3.1(a) | Hot water system - supply to fixtures | | | | | | | | |
| (b) | " " - capacity and safety | | | | | | | | |
| (c) | Hot water temperature | | | | | | | | |
| II.3.4.1(a) | Hot water system safety devices | | | | | | | | |
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| | Intercept it 3 continued on next page | | | | | | | | |

| Housing Syst | em Producer: | | alegon | | Cate | gory II | SUMMARY FORM FOR | |
|--------------|---|---------------------------|------------------------------|------------------------------|-------------|-----------------------|--|--|
| Building Typ | e: Single Family Detached (Guide Criteria Vol. IV) | 1 | Evaluation of Plans & Specs. | | | ation of | TESTING AND ANALYSIS PROGRAM | |
| | 3 (Continued) | | cumen | | | rsical | Legend | |
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module ()-Completed | |
| Criteria | | 15/S | Computal Analysis | Dai | Examination | Jone 1 | (symbol circled) | |
| Number | Subject | Plan | Con | Test Indu | Exa | Testing to be Done | Remarks | |
| H.3.4.1(b)1 | Pressure relief valve in c-w supply | | | | | | | |
| 2 | Location of T and T-P relief valves | | | | | | | |
| 3 | Prohibited devices between relief valve and heater | | | | | | | |
| 4 | Location of energy shutoff devices | | | | | | | |
| 11.3.5.1 | Adequate but not excessive water usage | | | | | | | |
| 11.3.5.2 | Limit discharge rate at water outlets | | | | | | | |
| И.3.6.1 | Separation between potable and non-potable water supply systems | | | | | | | |
| 1.3.6.2 | Air gap at water outlet | | | | | | | |
| н.з.б.з | Devices for preventing backflow | | | | | | | |
| H.3.6.4 | Non-toxic materials in water supply system | | | | | | | |
| П.3.6.5 | Avoid threaded fixture faucets and | | | | | | | |
| | submergible connectors | | | | | | | |
| | | | | | | | | |
| | Intercept II.3 continued on next page | | | | | | | |

Category I Category II Housing System Producer: SUMMARY FORM FOR Evaluation of Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Elements Intercept: H.3 (Continued) Ma -Material H -Housing Unit Computations/ Analysis C -Component HS -Housing System Examination O-Completed M -Module ō Testing to be Done Criteria (symbol circled) Number Subject Remarks H.3.7.1 Control of vermin and rodents H.3.8.1(a)Prevent emission of unsafe or unsanitary fluids (b) Pneumatic pressures in DWV system Vent terminals - location and closure (c) (d) Area of vent terminals (e) Vents to be pitched Avoid connections to suds zones H.3.9.1(a)Capacity of drainage stacks Horizontal drains - flow velocity and capacity Interfixture hydraulic effects (d) Design loads for DWV systems Backwater protection (e) Indirect connections of equipment containing sterile materials (g) Sub-sewer drainage Intercept H.3 continued on next page

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Category I Category II Housing System Producer: SUMMARY FORM FOR Evaluation of Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical & Documentation Legend Intercept: H.3 (Continued) Elements Computations/ Analysis Test Data/ Industry Cert. H -Housing Unit Ma -Material C -Component HS -Housing System Examination Testing to be Done M -Module Completed Criteria (symbol circled) Number Subject Remarks H.3.9.1(h) Sub-soil drainage H.3.10.1(a) Adequate discharge rates at water outlets (b) Maximum water pressure and water hammer (c) Water system to be designed for the available pressure Storm water removal by "instantaneous" or H.3.11.1 "controlled" flow 11.3.11.2 Prevent storm drainage into sanitary sewer, or vice-versa H.3.11.3 Trap rain pipes and floor drains to combination systems . Size combination storm-sanitary system as storm H.3.11.4 systems 11.3.11.5 Prevent sewer backwater

| Building Ty | stem Producer: pe: Single Family Detached (Guide Criteria Vol. IV) .4 Plumbing/Fire Safety | Category I Evaluation of Plans & Specs. & Documentation | | | Evalue Phy | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|---------------------------------------|--|--|---------------------------|------------------------------|---------------|---------------------------------------|--|--|
| Criteria Number | Subject | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) Remarks | |
| 1.4.1.1 | Plumbing not to contribute to fire spread | | | | | | | |
| 11.4.1.2 | Minimize fire spread through plumbing system | | | | | | | |
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| | em Producer: e: Single Family Detached (Guide Criteria Vol. IV) 5 Plumbing/Acoustic Environment | Evo Plar | Category I Evaluation of Plans & Specs. & Documentation | | | gory ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|------------|---|---------------------------|---|------------------------------|-------------|---------------------------------------|--|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) | |
| Number . | Subject | 8 2 | ۍ کې | Tes | Ä | p e | Remarks | |
| 1.5.1.1(a) | Plumbing - NC requirement | | | | | ., | | |
| (b) | " - noise reduction | | | | | | | |
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Category I Category II Housing System Producer: SUMMARY FORM FOR **Evaluation of** Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical & Documentation Legend Intercept: H.7 Plumbing/Atmospheric Environment Elements H -Housing Unit Computations/ Analysis Ma -Material HS -Housing System C . - Component Examination Completed Testing to be Done M -Module Criteria (symbol circled) Number Subject Remarks Prevent condensation on plumbing 11.7.1.1

| Housing Syst | em Producer: | Category I | | Category II | | SUMMARY FORM FOR | | | |
|---------------|--|---------------------------|------------------------------|------------------------------|------------------------|--------------------|--|--|--|
| Building Type | e: Single Family Detached (Guide Criteria Vol. IV) | | Evaluation of Plans & Specs. | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | | |
| | B Plumbing/Durability/Time Reliability | | & Documentation | | | rents | Legend | | |
| • | (Function) | | ions/ | ert. | r o | | Ma - Material H - Housing Unit C - Component HS - Housing System | | |
| Criteria | | Review of Plans/Specs. | Computations Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module -Completed (symbol circled) | | |
| Number | Subject | Rev | And And | Tes | Exa | T es | Remarks | | |
| 1.8.1.1 | Plumbing life expectancy | | | | | | | | |
| 1.8.2.1(a) | Quality of materials and equipment | | | | | | | | |
| (b) | Acceptability of standard and non-standard materials and equipment | | | | , . | | | | |
| 1.8.3.1 | Quality of design and installation | | | | | | | | |
| 1.8.4.1 | Self-scouring velocities in horizontal drains | | | | | | | | |
| 1.8.4.2 | Access for cleaning drains | | | | | | | | |
| 1.8.4.3 | Functional surfaces - cleanability and soilability | | | | | | | | |
| 1.8.4.4(a) | Slope of drain lines | | | | | | | | |
| (b) | Avoid elements that retard flow | | | | | | | | |
| (c) | Crossflow of waste water prohibited | | | | | | | | |
| (d) | Maximum length of trap arms | 1 | | | | | | | |
| (e) | Avoid chilling of drain lines | | | | | 1 1 | • | | |
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| | Intercept H.8 continued on next page | | | 1 | | | | | |

| Building Typ | ousing System Froducer: uilding Type: Single Family Detached (Guide Criteria Vol. IV) ntercept: H. 8 (Continued) | | Category I Evaluation of Plans & Specs. & Documentation | | | ation of rsical | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|--------------|--|---------------------------|--|------------------------------|-------------|-----------------------|--|
| Criteria | | Review of Plans/Specs. | Coraputations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | Revi | Com | Test | Exar | Testi be C | Remarks |
| 11.8.4.4(f) | Bases of submergible vents washed by small fixtures | | | | | | |
| (g) | Minimum sizes of dry vents below flood level | | | | | | |
| (h) | Washing of vents to horizontal drains | | | | | | |
| (i) | Geometrical aspects of fittings in drainage system design | - | | | | | |
| (j) | Vent grading (pitch) | | | | <u> </u> | | |
| 11.8.4.5(a) | Shutoff of building water supply outside building | | • | | | | |
| (b) | Interior building water supply shutoff | | | | | | and the second s |
| (c) | Water tank shutoff | | | | | | |
| (d) | Shutoff of each WC | | | | | | |
| (e) | Water heating equipment shutoff | | | | | | |
| (f) | Shutoff devices - hydraulic characteristics | | | | | | |
| (g) | Draining of water supply system | | | | | | |
| | Intercept H.8 continued on next page | | | | | | |

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| Housing Sys | tem Producer: | Ce | ategon | y 1 | Cate | gory II | SUMMARY FORM FOR | | |
|---------------|--|---------------------------|---------------------------|------------------------------|------------------------|-----------------------|---|--|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) | | duations | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | | |
| Intercept: H. | 8 (Continued) | & Docume | | | Elements | | Legend | | |
| | | | Computations/ Analysis | Test Data/ Industry Cert. | noi | | Ma -Material H -Housing Unit C -Component HS -Housing System M -Module -Completed | | |
| Criteria | | Review of Plans/Specs. | Computa Analysis | t Dat | Examination | Testing to be Done | (symbol circled) | | |
| Number | Subject | Rev Plan | A G | lnd Ind | Exc | Tes | Remarks | | |
| H.8.4.5(h) | Access for inspection and servicing | | | | | | | | |
| Н.8.4.6 | Pressure control of pump supplies | | | | | | | | |
| 11.8.4.7 | Metering of water supply | | | | | | | | |
| H.8.4.8 | Sill faucets | | | | | | | | |
| 11.8.5.1 | Freeze protection | | | | | | | | |
| 11.8.6.1 | External corrosion protection - piping | | | | : | | | | |
| 11.8.6.2 | Internal " " - " | | | | | | | | |
| 11.8.6.3 | " - equipment | | | | | | | | |
| 11.8.6.4 | Staining by water supply | | | | | | | | |
| 11.8.6.5 | Minimize electrolysis and particulate | | | | | | | | |
| | deposition | | | | | | <u> </u> | | |
| 11.8.6.6 | Maximum water pipe velocities | | | | | | | | |
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| | stem Producer: pe: Single Family Detached (Guide Criteria Vol. IV) | Evo | ategon | n of | | gory II | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM |
|----------|---|---------------------------|-----------------------------------|------------------------------|----------------------|-----------------------|--|
| | Intercept: I.1 Mechanical Equipment, Appliances/Structural Serviceability | | Plans & Specs. & Documentation | | Physical Elements | | Legend |
| | | | Computations/ Analysis | Test Data/ Industry Cert. | tion | 0 | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed |
| Criteria | | Keview of Plans/Specs. | Computa Analysis | it Dat lustry | Examination | Testing to be Done | (symbol circled) |
| Number | Subject | × 5 | S & | Tes | Ä | r. be | Remarks |
| 1.1.1.1 | Mechanical equipment to accommodate structure deflection | | | | | | |
| .1.2.1 | Vibrations caused by mechanical equipment | | | | | | |
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| Building Ty | Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: 1.2 Mechanical Equipment, Appliances/Structural Safety Criteria | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|--|---------------------------|--|------------------------------|-------------|---------------------------------------|--|
| Criteria | | | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) |
| Number | Subject | Review of Plans/Specs. | A Pu | Tes | , X | Tes be | Remarks |
| [.2.1.1 | Structural failure caused by mechanical equipment/failure of inserts and hangers | | | | | | |
| 1.2.2.1 | Structural failure caused by installation of mechanical equipment | | | | | | |
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| Housing Sys | item Producer: | | ategor | | | gory II | SUMMARY FORM FOR |
|-------------|---|--|---------------------------|------------------------------|-------------|------------------------------|---|
| | oe: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. & Documentation | | Evaluation of Physical — | | TESTING AND ANALYSIS PROGRAM | |
| , | 3 Mechanical Equipment, Appliances/Health and Safety | | | | | nents | Legend Ma - Material H - Housing Unit C - Component HS - Housing System |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module -Completed (symbol circled) |
| Number | Subject | Rev | Con | Test | Exa | Test be [| Remarks |
| I.3.1.1 | Heating and cooling system - conformance to recognized safety standards | | | | | | |
| 1.3.1.2 | Guarding of operating equipment | | | | | | |
| 1.3.1.3 | Marking of exposed connections | | | | | | |
| 1.3.1.4 | Protection from hot pipes | | | | | | |
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| Housing Sys | tem Producer: | L | Category I | | | gory II | SUMMARY FORM FOR | |
|--------------|---|--|---------------------------|------------------------------|---------------------------------|-----------------------|--|--|
| Building Typ | pe: Single Family Detached (Guide Criteria Vol. IV) | Evaluation of Plans & Specs. & Documentation | | | Evaluation of Physical Elements | | TESTING AND ANALYCIS PROGRAM | |
| Intercept: I | .4 Mechanical Equipment, Appliances/Fire Safety | | | | | | Legend | |
| 9 | | | Computations/ Analysis | ert. | E O | , 141 | Ma - Material H - Housing Unit C - Component HS - Housing System | |
| Criteria | | Review of Plans/Specs. | nputa | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module -Completed (symbol circled) | |
| Number | Subject | Rev | A Co | Tes | Exa | Tes be | Remarks | |
| 1.4.2.1 | Unapproved location of heating equipment | | | | | | | |
| 1.4.3.1 | Heating unit clearance requirements | | | - | | | | |
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| | em Producer: | | ategory Iluation | | | gory II | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM | |
|-----------|---|---------------------------|---------------------------|------------------------------|-------------|-----------------------|---|--|
| | e: Single Family Detached (Guide Criteria Vol. IV) 5 Mechanical Equipment, Appliances/Acoustic | Plar | is & Sp cumen | ecs. | Phy | sical nents | Legend Testing And ANACISIS PROGRAM | |
| - | Environment | ; | tions/ | Cert. | | | Ma-Material H -Housing Unit . C -Component HS -Housing System M -Module | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module -Completed (symbol circled) | |
| Number | Subject | Pia | Cor | Tes | ភ្ន | Tes | Remarks | |
| .5.1.1(a) | Mechanical equipment/NC requirement | | | | | | | |
| (b) | " /noise reduction | | | | | | | |
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| | MARY FORM FOR ALYSIS PROGRAM |
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| 1.6.1.1 Lighting of equipment rooms | sing System |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: I.7 Mechanical Equipment, Appliances/Atmospheric | | | Category I | | Category II | | SUMMARY FORM FOR | |
|---|---|------------------------------|---------------------------|------------------------------|-------------|------------------------------|--|--|
| | | Evaluation of Plans & Specs. | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM | | |
| | | | & Documentation | | Elements | | Legend | |
| | Environment | | hons/ | Cert. | Examination | | Ma - Material H - Housing Unit C - Component HS - Housing System | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | | Testing to be Done | M -Module -Completed (symbol circled) | |
| Number | Subject | Rev | Com | Test | Exa | Lest be (| Remarks | |
| 1.7.1.1 | Provide heating and/or cooling | | | | | | | |
| I.7.1.2(a) | Capacity to maintain 75 degrees F | | | | | | | |
| (b) | Automatic control | | | | | | | |
| (c) | Temperature and velocity variation | | | | | | | |
| (d) | Relative humidity control | | | | | | | |
| (e) | Air filtration | | | | | | | |
| (f) | Duct leakage | | | | | 7.4 | | |
| 1.7.2.1 | Prevent condensate on a/c supply duct | | | | | | | |
| 1.7.3.1 | Control humidity in high humidity areas | | | | | | | |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: I.8 Mechanical Equipment, Appliances/Durability/ | | Category I Evaluation of Plans & Specs. & Documentation | | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|---|--|---|---------------------------|------------------------------|--|-----------------------|---|--|
| Criteria | Time Reliability (Function) | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module — -Completed (symbol circled) | |
| Number | Subject | Re | Co. | | | Exa Test be (| Remarks | |
| 1.8.1.1 | Duct performance requirements | | | | | | | |
| 1.8.1.2 | Damage to adjacent elements caused by ducts | | | | | | | |
| 1.8.2.1 | HVAC - reliable operation | | | | | | | |
| 1.8.2.2 | " - case of maintenance | | | | | | | |
| I.8.4.1(a) | Range/oven - capacity and function | | | | | | | |
| (b) | " - safety | | | | | | | |
| (c) | " - durability and maintainability | | | | | | | |
| (d) | " - appearance | | | | | | | |
| I.8.5.1(a) | Refrigerator - capacity and function | | | | | | | |
| (b) | " - safety | | | | | | | |
| (c) | " - durability and maintainability | | | | | | | |
| (d) | " - appearance | | | | | | | |
| (e) | " - noise and vibration | | | | | | | |
| I.8.7.1 | Mechanical equipment - function and adequacy | | | | | | | |
| 1.8.7.2 | " - safety | | | | | | | |
| | Intercept 1.8 continued on next page | | | | | | | |

| Housing Sy | Housing System Producer: | | Category I Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM | |
|--|---|---------------------------|---|------------------------------|--|-----------------------|--|--|
| Building Type: Single Family Detached (Guide Criteria Vol. IV) | | Plan | | | | | | |
| Intercept: I | Intercept: I.8 (Continued) | | | | | | Legend Ma - Material H - Housing Unit | |
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | 9 . | C -Component HS -Housing System M -Module -Completed | |
| Criteria | | iew is/Sp | npute | t Dat ustry | | Testing to be Done | (symbol circled) | |
| Number | Subject | Rev | Con | Test | Exa | Test be | Remarks | |
| 1.8.7.3 | Mechanical equipment - air pollution | | | | | | | |
| 1.8.7.4 | " - noise and vibration | | | | | | | |
| 1.8.7.5 | " - structural service- ability and safety | | | | | | | |
| I.8.7.6 | Mechanical equipment - durability and reliability | | | | | | | |
| 1.8.7.7 | Mechanical equipment - maintainability | 1 | | | | | | |
| 1.3.8.1 | Chimneys and vents | | | | | | | |
| 1.8.8.2 | Fireplaces | | | | | | | |
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Category I Category II SUMMARY FORM FOR Housing System Producer: Evaluation of Evaluation of TESTING AND ANALYSIS PROGRAM Building Type: Single Family Detached (Guide Criteria Vol. IV) Plans & Specs. Physical Legend & Documentation Elements Intercept: J.1 Power, Electrical Distribution, Ma -Material H -Housing Unit Computations/ Analysis Test Data/ Industry Cert. Communications/Structural Serviceability HS -Housing System C -Component Examination Completed Testing to be Done M -Module (symbol circled) Criteria Remarks Number Subject Settlement - effect on powerlines J.1.1.1

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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: J.2 Power, Electrical Distribution, Communications/Structural Safety Criteria | | Eve | Category I Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|--|--|---------------------------|--|------------------------------|--|-----------------------|---|--|
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma -Material H -Housing Unit C -Component HS -Housing System M -Module — -Complete I (symbol circled) | |
| Number | Subject | Revi | Com | Test Indu | Exar | Testi be C | Remarks | |
| J.2.1.1 | Power elements - effect on structural safety | | | | | | | |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: J.4 Power, Electrical Distribution, Communications/Fire Safety Criteria | | Eve Plar | Category I Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|--|-----------------------------------|---------------------------|--|--|--|-----------------------|--|--|
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | g to | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module — Completed (symbol circled) | |
| Number | Subject | Revie Plans, | Comp | Test Dindust | Exami | Testing to be Done | Remarks | |
| .4.2.1 | Automatic smoke detection device | | | | | | | |
| .4.2.2 | Continuous sounding alarm devices | | | | | | | |
| .4.4.1 | Lightening protection | | | | | | | |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: J. 5 Power, Electrical Distribution, | | Eve Pla | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of sical aents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|---|---|---------------------------|--|------------------------------|-------------|---------------------------------------|---|--|
| Criteria | Communications/Acoustic Environment | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) | |
| Number | Subject | Rev | Cor | Tes | ž | Tes | Remarks | |
| J.5.1.1(a) | Power, electrical distribution and communications - NC requirements | | | | | | | |
| (b) | Power, electrical distribution and communications - noise reduction | | | | | | | |
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| Building Typ | ousing System Producer: ilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: J.8 Power, Electrical Distribution, | | Category I Evaluation of Plans & Specs. & Documentation | | Evalu- Phy | gory II ation of vsical ments | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend . |
|--------------|---|---------------------------|--|------------------------------|---------------|-------------------------------|---|
| Criteria | Communications/Durability/Time Reliability (Function) | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | P P P | S 4 | Tes | Ĕ | Jes De | Remarks |
| J.8.1.1 | Main breaker capacity | | | | | | |
| J.8.1.2 | " - conformance to N.E.C. | | | | | | |
| J.8.2.1(a) | Power characteristics | | | | | | |
| (b) | Electrical distribution system - characteristics | | | | | | |
| (c) | Electrical distribution system - capacity | | | | | | |
| (d) | " - safety | | | | | | |
| (e) | " - durability | | | | | | |
| J.8.4.1 | Telephone wiring | | | | | | |
| J.8.4.2 | " - compatibility with local company | | | | | | |
| J.8.6.1 | Master TV signal distribution | | | | | | |
| J.8.6.2 | " - capacity | | | | | | |
| J.8.6.3 | " " - construction | 1 | | | <u> </u> | | |
| J.8.6.4 | " " - durability | _ | | | ļ | | |
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| Building Ty | ding Type: Single Family Detached (Guide Criteria Vol. IV) reept: K.1 Lighting Elements/Structural Serviceability | | ategory alvation ns & Sp ocumen | n of pecs. | Evalue Phy | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|--|------------------------|--|--|---------------|------------------------------|---|
| Criteria | | | Computations/ Analysis | Analysis Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol cir.led) |
| Number | Subject | Review of Plans/Specs. | Con | Test | Exa | Test be | Remarks |
| K.1.1.1 | Lighting elements - ceiling damage | | | | | | |
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| Building Ty | ding Type: Single Family Detached (Guide Criteria Vol. IV) ercept: K.2 Lighting Elements/Structural Safety | | Category I Evaluation of Plans & Specs. & Documentation | | Category !! Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|---|---------------------------|--|--------------------------|--|-----------------------|---|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | st Data/ Justry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | 8 G | S-4 | Tel | Ä | p d | Remarks |
| K.2.1.1 | Lighting elements - strength of connections | | | | | | |
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| Housing Sys | tem Producer: | C. | ategor | y I | Cate | gory II | SUMMARY FORM FOR | | |
|-------------|---|---------------------------|--|------------------------------|-------------|-----------------------|---|--|--|
| | Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: K.4 Lighting Elements/Fire Safety | | Evaluation of Plans & Specs. & Documentation | | | ation of | TESTING AND ANALYSIS PROGRAM | | |
| | | | | | | rsical nents | Legend | | |
| | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | ation | ٤٥ | Ma-Material H -Housing Unit C -Component H5-Housing System M -Module -Completed | | |
| Criteria | | iew 73/5 | nput alysis | t Dal ustry | Examination | Testing to be Done | (symbol circled) | | |
| Number | Subject | Rev Pla | Cor | Tes | Ex | Tes | Remarks | | |
| K.4.1.1 | Lightening Fixtures - fire hazard | | - | | | | | | |
| K.4.2.1 | " - flame spread | | | | | | | | |
| K.4.3.1 | " - smoke generation | | | | | | | | |
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| Building Type | g System Producer: g Type: Single Family Detached (Guide Criteria Vol. IV) pt: K.5 Lighting Elements/Acoustic Environment | | ategory luation ns & Sp cumen | of oecs. | Evalue Phy | gory II ation of sical | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|---------------|---|---------------------------|--|------------------------------|---------------|------------------------------|---|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | Rev | Con | Test | Exa | Test be 0 | Remarks ** |
| K.5.1.1(a) | Lighting element/NC requirement | | | | | | |
| (b) | " /noise reduction | | | | | | |
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| Building Type | | Detached (Guide Crite ents/Illuminated | | Evo | ategory luation ns & Sp cumen | of pecs. | Evalue Phy | gory II ution of sical ents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|---------------|----------------|---|-----------------|---------------------------|--|------------------------------|---------------|--------------------------------------|---|
| Criteria | | | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | | | ~ <u>~</u> | Ŭ Ā | <u> </u> | ă. | T _e | Remarks |
| K.6.1.1(a) | Lighting eleme | nts - minimum req | uirements | | | | | | |
| (b) | 11 11 | - location of | wall switches | <u> </u> | | | | | |
| (c) | 11 11 | - noise | | <u> </u> | | | | | |
| . (d) | 11 61 | - durability, | maintainability | | | | | | |
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| | ousing System Producer: oilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: L.3 Enclosed Spaces/Health and Safety | | ategory uluation ns & Sp | of pecs. | Category II Evaluation of Physical | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM |
|---------------|--|---------------------------|--------------------------------|------------------------------|-------------------------------------|-----------------------|---|
| Intercept: L. | | | cumen SE | T | | ents | Legend Ma -Material H -Housing Unit C -Component HS -Housing System |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | M -Module -Completed (symbol circled) |
| Number | Subject | Rev | Cor | Tes | Exa | Tes be | Remarks |
| .3.1.1(a) | Elements causing falls | | | | | | |
| (b) | Casualties from fires | | | | | | |
| (c) | Heating and cooking equipment hazards | | | | | | |
| (d) | Sharp edges; pointed projections, glass doors and enclosures | - | | | | | |
| (e) | Enclosed spaces openable from inside | | | | | | |
| (f) | Fixtures and fittings securely mounted or fastened | | | | | | |
| (g) | Ingress of insects, rodents, etc. | | | | | | |
| (h) | Floor surfacing | | | | | | |
| (i) | Security from criminal activity | | | | | | |
| (j) | Lighting to provide safety | | | | | | |
| (k) | Projecting awnings or hoods | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Intercept L.3 continued on next page | | | | | | |

| Housing Syste | em Producer: | 1 | ategory Iluation | | | gory II | SUMMARY FORM FOR | |
|----------------|--|---------------------------|---------------------------|-------------------|--|-----------------------|--|--|
| Building Type | uilding Type: Single Family Detached (Guide Criteria Vol. IV) ntercept: L.3 (Continued) | | ns & Specs. | | Evaluation of Physical | | TESTING AND ANALYSIS PROGRAM Legend | |
| Intercept: L.3 | | | & Documentation | | | nents | | |
| | | ecs. | tions/ | Cert. | noi | | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed | |
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | t Data ustry (| Examination | Testing to be Done | (symbol circled) | |
| Number | Subject | Re | S & | Tes | ×× | Tes be | Remarks | |
| L.3.2.1(a)1 | Slipperiness/floor surface | | | | | | | |
| . 2 | Change in slipperiness factor | | | | | | | |
| 3 | Slipperiness increases with wetting | | | | | | | |
| 4 | " of tub and shower surfaces | | | | | | | |
| (b)1 | Rough surfaces, carpet weaves, sills, etc. | | | | | | | |
| 2 | Changes in floor level | | | | | | | |
| -3 | Stair and balcony railings | | | | | | | |
| 4 | Windows: ease of opening; sills, guards; cleanability | | | | | | | |
| 5 | Means of egress | | | | | | | |
| L.3.3.1 | Personal security from criminal acts | | | | | | • | |
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| Building Ty | ousing System Producer: uilding Type: Single Family Detached (Guide Criteria Vol. IV) tercept: L.4 Enclosed Spaces/Fire Safety | | Category I Evaluation of Plans & Specs. & Documentation | | | gory II ation of sical nents | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|--------------------|--|---------------------------|---|------------------------------|-------------|---------------------------------------|---|--|
| Criteria . | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Dons | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module — -Completed (symbol circled) | |
| Number | Subject | ox ā. | UV | 12 = | <u> </u> | ق ق | Remarks | |
| L.4.2.1 | Exits | | | | | | | |
| L.4.2.2 | Egress/cutside window | | | | | | | |
| 1.4.2.3 | Flame spread/stairway wall and ceiling | | - | | <u> </u> | | | |
| L.4.2.4 L.4.2.5 | Exit door/minimum width Stairways/ " " | | | | | | | |
| L.4.2.6 | Stairs | | | | | | | |
| L.4.2.7 | Exit doors | | | | | | | |
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| Housing Sys | tem Producer: | C | ategor | y I | Cate | gory II | SUMMARY FORM FOR | | |
|--------------|---|---------------------------|--|------------------------------|--------------|----------------------------|--|--|--|
| Building Typ | Iding Type: Single Family Detached (Guide Criteria Vol. IV) ercept: L.5 Enclosed Spaces/Acoustic Environment | | Evaluation of Plans & Specs. & Documentation | | | ation of sical nents | TESTING AND ANALYSIS PROGRAM Legend | | |
| Criteria | | | | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed (symbol circled) | | |
| Number | Subject | Review of Plans/Specs. | Computations/ Analysis | Test | Exam | Testir be D | Remarks | | |
| L.5.1.1 | Total system: enclosed space noise levels | | | | | | | | |
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| Building Ty | uilding Type: Single Family Detached (Guide Criteria Vol. IV) Stercept: L.6 Enclosed Spaces/Illuminated Environment | | Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend |
|-------------|---|---------------------------|--|------------------------------|--|-----------------------|--|
| Criteria | | Review of Plans/Specs. | Computations/ Analysis | Test Data/ Industry Cert. | Examination | Testing to be Done | Ma-Material H -Housing Unit C -Component HS -Housing System M -Module -Completed (symbol circled) |
| Number | Subject | Rev | Con | Test | £xa | Test be | Remarks |
| L.6.1.1 | Admission of natural light | | | | | | |
| L.6.2.1 | Lighting elements - capacity | _ | | | | | |
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| Housing Sv | stem Producer: | C | ategon | / l | Cate | gory II | SUMMARY FORM FOR |
|-------------|--|---------------------------|--|------------------------------|-------------|----------------------------|---|
| Building Ty | Iding Type: Single Family Detached (Guide Criteria Vol. IV) ercept: L.7 Enclosed Spaces/Atmospheric Environment | | Evaluation of Plans & Specs. & Documentation | | | ation of sical nents | TESTING AND ANALYSIS PROGRAM Legend |
| | | | ations/ | Test Data/ Industry Cert. | l | | Ma - Material H - Housing Unit C - Component HS - Housing System M - Module - Completed |
| Criteria | | Review of Plans/Specs. | apute slysis | Dat Ustry | Examination | Testing to be Done | (symbol cir:led) |
| Number | Subject | Rev | Con | Tesi | Exo | Tesl | Remarks |
| L.7.1.1 | Natural ventilation of habitable rooms | | | | | | |
| 1.7.1.2 | Mechanical ventilation requirements | | | | | | |
| L.7.1.3 | " for summer comfort | | | | | | |
| L.7.1.4 | Prevention of air interchange between dwelling units | | | | | | |
| L.7.2.1 | Maximum air infiltration into living units | | | | | | |
| L.7.3.1 | Conditioning of intake air | | | | | | |
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| Housing System Producer: Building Type: Single Family Detached (Guide Criteria Vol. IV) Intercept: L.9 Enclosed Spaces/Spatial Characteristics and Arrangement Criteria | | Category I Evaluation of Plans & Specs. & Documentation | | Category II Evaluation of Physical Elements | | SUMMARY FORM FOR TESTING AND ANALYSIS PROGRAM Legend | |
|---|--|--|----------|--|--------------------|--|---------------------------|
| | | | | | | | Review of Plans/Specs. |
| | | Testing to be Done | | | | | |
| | | Number | Subject | Revi | Com And Test | Test | Exar |
| L.9.1.1 | Reference to subsequent criteria | | | | | | |
| L.9.2.1 | Living area | | | | | | |
| L.9.3.1 | Dining area | | | | | | |
| L.9.4.1 | Kitchen location | · | | , | | | |
| L.9.4.2 | " space | | | | | | |
| 19.4.3 | " light and ventilation | | | | | | |
| L.9.4.4 | " range/fire protection and safety | | | | | | |
| L.9.5.1 | Laundry spaces | | | | | | |
| L.9.6.1 | Bedroom spaces | | | | | | |
| L.9.7.1 | Bathroom spaces | | <u> </u> | | | | |
| L.9.8.1 | Bedroom closets | | | | | | |
| L.9.9.1 | Doorways | | | | | | |
| L.9.9.2 | Habitable rooms/natural lighting and ventilation | | | | | | |
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