

# MATERIAL AND PROCESS COMPARISON CHECKLIST

This extensive checklist can be used by developers and consumers to compare the materials and processes used to construct a manufactured homes. This list is by no means comprehensive – for example, it doesn't address foundation designs – but should provide a basis for dialogue with a manufacturer or retailer. In general, the options listed next to each component appear in order of decreasing performance from left to right. The first option listed will typically provide a higher level of durability and reliability than the second will.

## GENERAL INFORMATION

Name of manufacturer, brand, model and year: \_\_\_\_\_  
Name of retailer: \_\_\_\_\_ Size of home in square feet [A]: \_\_\_\_\_  
Name of installer: \_\_\_\_\_ Cost of home [B]: \_\_\_\_\_  
Number of sections: \_\_\_\_\_ Cost per square foot [B/A]: \_\_\_\_\_

## HOUSE SYSTEMS

### 1. FLOOR SYSTEM (Chassis, Joists, Insulation)

For floor joists, size and spacing interact to provide strength and should be considered together. For a given joint size, more strength is provided by smaller spacing, which for a given spacing, more strength is provided by larger joists.

- Joist size  2"X8"  2"X6"  \_\_\_\_\_
- Joist spacing  16" o/c  24" o/c  \_\_\_\_\_
- Joist system  Transverse  Longitudinal  \_\_\_\_\_
- Joist to joist connection  Nail/screw/staple, glued  Nail/screw/staple-not glued  \_\_\_\_\_
- Floor insulation  Fiberglass batts/blown  Cellulose blown  \_\_\_\_\_
- Insulation R-value  R-21  R-11  \_\_\_\_\_

### 2. PLUMBING AND DUCTWORK SYSTEMS

- Shutoff valves  Under every sink  At any one junction only  \_\_\_\_\_
- Pipe fittings  Copper  Brass  \_\_\_\_\_
- Pipefitting fastenings  Steel ring  Copper ring  \_\_\_\_\_
- HVAC ducting  In attic  In floor  \_\_\_\_\_
- Floor register positions  Perimeter (wall mount)  Center of floor  \_\_\_\_\_
- HVAC duct  Sheet metal  Fiberglass  \_\_\_\_\_
- HVAC connection and end details  Caulked with mastic  Taped only  \_\_\_\_\_

### 3. FLOOR DECKING (Including carpets, vinyl flooring)

- Decking material  Plywood  Novadeck/OSB  \_\_\_\_\_
- Type  Water-resistant  Non water-resistant  \_\_\_\_\_
- Thickness  3/4"  5/8"  \_\_\_\_\_
- Fastening type  Glued  Screwed  Nailed/stapled  \_\_\_\_\_
- Finish in wet areas  Sanding  Rough  \_\_\_\_\_
- Carpet  Stain resistant  Not stain resistant  \_\_\_\_\_
- Carpet installation  On-site to CRI-105 standard  In-plant and protected during construction  \_\_\_\_\_
- Carpet weight  50-29 oz. (mid range)  28 oz. or less  \_\_\_\_\_
- Carpet padding  Medium density (7/16")  Low density  \_\_\_\_\_
- Vinyl flooring  Protected with paper during construction  Not protected  \_\_\_\_\_
- Vinyl flooring wear layer  Urethane  Vinyl  \_\_\_\_\_

## 4. CABINETS AND FIXTURES

- Cabinets  Hardwood face w/plywood walls  MDF/particleboard  \_\_\_\_\_
- Shelves  Adjustable  Non-adjustable  \_\_\_\_\_
- Rollers  Metal  Plastic  \_\_\_\_\_
- Bathtub and shower  One piece unit  Two piece unit  \_\_\_\_\_
- Bathtub and shower  Tile  Fiberglass/acrylic  PVC  \_\_\_\_\_
- Vanity sink  Porcelain  Plastic  \_\_\_\_\_
- Gas may be a less expensive utility option for water and space heating. Check your local gas and electric rates before choosing the one that is right for you.
- Water heater  40-gallon (gas)  30-gallon (gas)  \_\_\_\_\_  
 50-gallon (electric)  40-gallon (electric)
- Faucets  Metal  Plastic  \_\_\_\_\_
- Outside water faucets  2  1  \_\_\_\_\_
- Plumbing for icemaker  Yes  No  \_\_\_\_\_
- 20 amp GFI outlets for kitchen and bathrooms  Yes  No  \_\_\_\_\_

## 5. INTERIOR WALLS

For interior and exterior studs, size and spacing interact to provide strength and should be considered together. For a given stud size, more strength is provided by smaller spacing, while for a given spacing, more strength is provided by larger studs.

- Stud size  2" X 4"  2" X 3"  \_\_\_\_\_
- Stud spacing  16" o/c  24" o/c  \_\_\_\_\_
- Marriage wall stud size  2" X 4"  2" X 3"  \_\_\_\_\_
- Bottom plate size  2" X 3 1/2" X 4"  1" X 3 1/4" X 4"  \_\_\_\_\_
- Stud-top/bottom plate fastening  Screwed  Nailed/stapled  \_\_\_\_\_
- Stud-drywall fastening  Stapled and glued  Glued only  \_\_\_\_\_
- Wallboard finish  Tape and textured  Vinyl wallboard  \_\_\_\_\_
- Wallboard thickness  1/2"  5/16"  \_\_\_\_\_
- Shear wall sheathing  Plywood  Wallboard only  \_\_\_\_\_
- Wall-deck fastening  Screwed  Nailed/stapled  \_\_\_\_\_
- Interior hallway width  Handicap accessible  Not handicap accessible  \_\_\_\_\_

## 6. EXTERIOR WALLS

- Stud size  2" X 6"  2" X 4"  \_\_\_\_\_
- Stud spacing  16" o/c  24" o/c  \_\_\_\_\_
- Insulation R-value  R-19  R-11  \_\_\_\_\_
- Bottom plate  2" X 4 1/2" X 6"  01" X 4 1/4" X 6"  \_\_\_\_\_
- Stud-Top/bottom plate fastening  Screwed  Nailed/stapled  \_\_\_\_\_
- Sidewall height  7.5 ft.  7 ft.  \_\_\_\_\_
- Headers above openings  Double  Single  \_\_\_\_\_
- Exterior sheathing  OSB  Insulation board  \_\_\_\_\_
- Electrical wires pass  Through a hole in stud cased by a metal pipe  Through notch in stud covered by metal plate  \_\_\_\_\_
- Electrical boxes  Fixed to studs  Fixed on sheet rock  \_\_\_\_\_
- Wall-deck fastening  Screwed  Nailed/stapled  \_\_\_\_\_

## 7. ROOF

- |  |   |   |                                |
|--|---|---|--------------------------------|
| ▪ Roof design load zone                              | <input type="checkbox"/> North (40 PSF)                                     | <input type="checkbox"/> Middle (30 PSF)        | <input type="checkbox"/> _____ |
| ▪ Roof slope   | <input type="checkbox"/> 4/12   | <input type="checkbox"/> 3/12                   | <input type="checkbox"/> _____ |
| ▪ Ridge beam (marriage)                              | <input type="checkbox"/> Laminated beam                                     | <input type="checkbox"/> Site fabricated        | <input type="checkbox"/> _____ |
| ▪ Ceiling board                                      | <input type="checkbox"/> 1/2"   | <input type="checkbox"/> 5/16"                  | <input type="checkbox"/> _____ |
| ▪ Ceiling vapor barrier                              | <input type="checkbox"/> Sprayed on the ceiling                             | <input type="checkbox"/> Provided in the attic  | <input type="checkbox"/> _____ |
| ▪ Ceiling paint finishes                             | <input type="checkbox"/> Textured paint                                     | <input type="checkbox"/> Popcorn paint          | <input type="checkbox"/> _____ |
| ▪ Ceiling-wall fastening                             | <input type="checkbox"/> Nail/screw with glue                               | <input type="checkbox"/> Nail/screw only        | <input type="checkbox"/> _____ |
| ▪ Insulation R-value                                 | <input type="checkbox"/> R-38   | <input type="checkbox"/> R-21                   | <input type="checkbox"/> _____ |
| ▪ Eave projection                                    | <input type="checkbox"/> 8"   | <input type="checkbox"/> 3"                     | <input type="checkbox"/> _____ |
| ▪ Eave position                                      | <input type="checkbox"/> All around home                                    | <input type="checkbox"/> Front and back         | <input type="checkbox"/> _____ |
| ▪ Roof sheathing                                     | <input type="checkbox"/> Plywood  | <input type="checkbox"/> OSB                    | <input type="checkbox"/> _____ |
| ▪ Roof sheathing thickness                           | <input type="checkbox"/> 5/8"   | <input type="checkbox"/> 1/2"                   | <input type="checkbox"/> _____ |
| ▪ Waste vent location                                | <input type="checkbox"/> To outside   | <input type="checkbox"/> Curtailed in attic     | <input type="checkbox"/> _____ |
| ▪ Roof under-layer                                   | <input type="checkbox"/> Felt (30 lb) <input type="checkbox"/> Felt (15 lb) | <input type="checkbox"/> Type-D builder's paper | <input type="checkbox"/> _____ |
| ▪ Roof finish  | <input type="checkbox"/> Shingles   | <input type="checkbox"/> Metal                  | <input type="checkbox"/> _____ |
| ▪ Valleys and eaves protected w/ice and water shielf | <input type="checkbox"/> Yes  | <input type="checkbox"/> No                     | <input type="checkbox"/> _____ |
| ▪ Openings through roof                              | <input type="checkbox"/> Flashed  | <input type="checkbox"/> No flashing            | <input type="checkbox"/> _____ |

## 8. DOORS AND WINDOWS

- |                                      |   |  |                                |
|--------------------------------------|---|--|--------------------------------|
| ▪ Interior door style                | <input type="checkbox"/> Paneled/foam filled                      | <input type="checkbox"/> Plain luan/hollow core  | <input type="checkbox"/> _____ |
| ▪ Interior door width                | <input type="checkbox"/> 32"                                      | <input type="checkbox"/> 28"                     | <input type="checkbox"/> _____ |
| ▪ Interior door height               | <input type="checkbox"/> 7 ft.                                    | <input type="checkbox"/> 6.5 ft.                 | <input type="checkbox"/> _____ |
| ▪ Number of hinges                   | <input type="checkbox"/> 3  | <input type="checkbox"/> 2                       | <input type="checkbox"/> _____ |
| ▪ Hinge type                         | <input type="checkbox"/> Full mortise                             | <input type="checkbox"/> Surface mounted         | <input type="checkbox"/> _____ |
| ▪ Trim around int. doors             | <input type="checkbox"/> Wood                                     | <input type="checkbox"/> Vinyl                   | <input type="checkbox"/> _____ |
| ▪ Front exterior door                | <input type="checkbox"/> Steel with insulated core                | <input type="checkbox"/> Aluminum                | <input type="checkbox"/> _____ |
| ▪ Front door width                   | <input type="checkbox"/> 36"                                      | <input type="checkbox"/> 32"                     | <input type="checkbox"/> _____ |
| ▪ Back exterior door                 | <input type="checkbox"/> Steel with insulated core                | <input type="checkbox"/> Aluminum                | <input type="checkbox"/> _____ |
| ▪ Window frame                       | <input type="checkbox"/> Clad wood <input type="checkbox"/> Vinyl | <input type="checkbox"/> Aluminum (metal)        | <input type="checkbox"/> _____ |
| ▪ Window glass                       | <input type="checkbox"/> Double pane-low "E"                      | <input type="checkbox"/> Double pane "plain"     | <input type="checkbox"/> _____ |
| ▪ Flashing around windows            | <input type="checkbox"/> Metal                                    | <input type="checkbox"/> Bituminous coated paper | <input type="checkbox"/> _____ |
| ▪ Trim around ext. doors and windows | <input type="checkbox"/> Hardboard/vinyl                          | <input type="checkbox"/> Exposed aluminum flange | <input type="checkbox"/> _____ |
| ▪ Mini-blinds                        | <input type="checkbox"/> Metal                                    | <input type="checkbox"/> Vinyl                   | <input type="checkbox"/> _____ |

## 9. SIDING AND EXTERIOR

- |   |   |   |                                |
|---|---|---|--------------------------------|
| ▪ House wrap                                    | <input type="checkbox"/> Yes                  | <input type="checkbox"/> No             | <input type="checkbox"/> _____ |
| ▪ Exterior siding                               | <input type="checkbox"/> Vinyl                | <input type="checkbox"/> Hardboard      | <input type="checkbox"/> _____ |
| ▪ Caulking quality rating for exterior openings | <input type="checkbox"/> 25 year              | <input type="checkbox"/> 15 year        | <input type="checkbox"/> _____ |
| ▪ "Belly" wrap                                  | <input type="checkbox"/> Wire mesh reinforced | <input type="checkbox"/> Not reinforced | <input type="checkbox"/> _____ |

## 10. EXTENT OF IN-PLANT QUALITY CONTROL TESTS

Compare the quality control processes of the plants. What processes (electric, gas, HVAC, plumbing, finish, etc.) are tested? At what are the stages in construction and to what extent are the tests conducted?

## 11. PERFORMANCE STANDARDS

- |                         |   |   |                                |
|-------------------------|---|---|--------------------------------|
| ▪ Wind zone             | <input type="checkbox"/> Wind zone three    | <input type="checkbox"/> Wind zone two    | <input type="checkbox"/> _____ |
| ▪ Thermal zone          | <input type="checkbox"/> Thermal zone three | <input type="checkbox"/> Thermal zone two | <input type="checkbox"/> _____ |
| ▪ Roof-load zone        | <input type="checkbox"/> North (40 PSF)     | <input type="checkbox"/> Middle (30 PSF)  | <input type="checkbox"/> _____ |
| ▪ Energy star compliant | <input type="checkbox"/> Yes                | <input type="checkbox"/> No               | <input type="checkbox"/> _____ |

## 12. APPLIANCES AND ADDITIONAL FEATURES

You should compare appliances not only to those offered with other manufactured homes, but with those available in the retail market for comparable additional costs.

- |                    |                              |                             |                                |
|--------------------|------------------------------|-----------------------------|--------------------------------|
| ▪ Refrigerator     | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> _____ |
| ▪ Dishwasher       | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> _____ |
| ▪ Garbage disposal | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> _____ |
- SEER – a rating of energy efficiency – is only one aspect that should be considered when comparing central air conditioning units. Also compare workmanship and quality of the unit.
- |                    |  |                                     |                                |
|--------------------|--|-------------------------------------|--------------------------------|
| ▪ Air conditioner  | <input type="checkbox"/> SEER 12                   | <input type="checkbox"/> SEER 11    | <input type="checkbox"/> _____ |
| ▪ Fireplace        | <input type="checkbox"/> Yes                       | <input type="checkbox"/> No         | <input type="checkbox"/> _____ |
| ▪ Hazard detectors | <input type="checkbox"/> Smoke and carbon monoxide | <input type="checkbox"/> Smoke only | <input type="checkbox"/> _____ |

## 13. TRANSPORTATION AND SETUP

- |   |   |   |                                |
|---|---|---|--------------------------------|
| ▪ Setup responsibility  | <input type="checkbox"/> Manufacturer                       | <input type="checkbox"/> Retailer                   | <input type="checkbox"/> _____ |
| ▪ Manufacturer/retailer willing to certify if site meets warranty specs | <input type="checkbox"/> Yes                                | <input type="checkbox"/> No                         | <input type="checkbox"/> _____ |
| ▪ Setup contractor  | <input type="checkbox"/> Factory crew                       | <input type="checkbox"/> Certified on model & brand | <input type="checkbox"/> _____ |
| ▪ Setup contractor  | <input type="checkbox"/> Bonded and insured                 | <input type="checkbox"/> Insured                    | <input type="checkbox"/> _____ |
| ▪ Tires   | <input type="checkbox"/> New                                | <input type="checkbox"/> Used                       | <input type="checkbox"/> _____ |
| ▪ Tape and textured drywall reinforced for transport                    | <input type="checkbox"/> Luan backed at corners and windows | <input type="checkbox"/> Not reinforced             | <input type="checkbox"/> _____ |
| ▪ Endwalls braced for transport   | <input type="checkbox"/> Yes                                | <input type="checkbox"/> No                         | <input type="checkbox"/> _____ |
| ▪ Shingles protected for transport                                      | <input type="checkbox"/> By wind diverters                  | <input type="checkbox"/> Not protected in transport | <input type="checkbox"/> _____ |
| ▪ Skirting  | <input type="checkbox"/> Masonry                            | <input type="checkbox"/> Vinyl                      | <input type="checkbox"/> _____ |
| ▪ Home walkthrough after installation                                   | <input type="checkbox"/> Yes                                | <input type="checkbox"/> No                         | <input type="checkbox"/> _____ |

## 14. WARRANTIES AND ARBITRATION AGREEMENTS

- |   |                                   |                                   |                                |
|---|-----------------------------------|-----------------------------------|--------------------------------|
| ▪ Comments from warranty service references | <input type="checkbox"/> Positive | <input type="checkbox"/> Negative | <input type="checkbox"/> _____ |
| ▪ General                                   | <input type="checkbox"/> 2 years  | <input type="checkbox"/> 1 year   | <input type="checkbox"/> _____ |
| ▪ Structural system                         | <input type="checkbox"/> 5 years  | <input type="checkbox"/> 1 year   | <input type="checkbox"/> _____ |
| ▪ "Cosmetic" items                          | <input type="checkbox"/> 1 year   | <input type="checkbox"/> 90 days  | <input type="checkbox"/> _____ |
- Note that testing by Consumers Union has found little correlation between warranty length and performance for shingles and siding.
- |                          |   |  |                                |
|--------------------------|---|--|--------------------------------|
| ▪ Shingles               | <input type="checkbox"/> 30 years         | <input type="checkbox"/> 25 years              | <input type="checkbox"/> _____ |
| ▪ Siding                 | <input type="checkbox"/> 15 years         | <input type="checkbox"/> 10 years              | <input type="checkbox"/> _____ |
| ▪ Arbitration agreements | <input type="checkbox"/> None or optional | <input type="checkbox"/> Mandatory and binding | <input type="checkbox"/> _____ |

The material and process comparison checklist contains material developed in collaboration with the following individuals affiliated with Michigan State University's Construction Management Program: Afshan S. Barshan, Dr. Jack H. Willenbrock, Dr. Tariq S. Abdelhamid, Dr. Matt Syal. © 2003