



## **STUDY OF LIFE EXPECTANCY OF HOME COMPONENTS**

Frequently we are asked to provide some estimate of how long a given home component (appliances, structural elements, etc.) will last. That is often a crystal ball exercise for a specific air conditioner, furnace, water heater, etc. There is however some published data that provides insight into what is considered nominal and could help a homeowner understand what should be expected of a component. The National Association of Home Builders released a study, sponsored by Bank of America Home Equity, in February 2007 entitled "Study of Life Expectancy of Home Components". The study is available at the NAHB website ([click here to see document](#)). The document is 19 pages and in case you don't care to review the complete report, we will summarize some key findings below.

The report does not define "life expectancy" outright so perhaps some explanation is of value here. Defining the term begs additional discussion about concepts such as operation cycles, operational time, cost of ownership, mean time between failure, environmental exposure and the like. Suffice it to say, for purposes of applying the NAHB report data, accept that "life expectancy" is simply the average time a given component performs its role in the house before being replaced. It does not mean that the component has completely failed, but rather that some determination has been made that it should be replaced. This decision could have been based on high cost of operation, high cost to maintain, low cost to replace (ex. new technology) or simply that it is no longer "in style". Neither does life expectancy mean that the component has never failed or needed repair. Maintenance and repair of house components DURING THEIR SERVICE LIFE are normal aspects to home ownership.

How might you use this data? Here are a few considerations:

- Any components in your home that are older than the average life expectancy shown for that item are possibly near the end of their service life. To avoid a surprise failure, have them serviced by an expert and get an assessment.
- If you must replace a component, consider whether it provided at least the nominal service life. If so, you can take some comfort in the fact that your investment provided satisfactory return. If not, question why. Explore in detail with the repair technician the nature of the failure. Get a second opinion before replacing the component if you aren't satisfied with the answers.
- Keep in mind that appliances are mechanical devices. They WILL fail and WILL eventually need to be replaced. It is not a question of IF but rather WHEN. If replacement is suggested before the average service life times, consider repair over replacement provided the economics make sense.
- Consider the big picture. If you have multiple premature replacements, that could be an indicator of a broader issue. Perhaps the appliances were sub-standard quality in the beginning... or the installations were poor. Consider your use of the appliances. Perhaps you are a heavier-than-normal user. If so, lean toward higher quality / grade replacements. Lastly, take stock of your maintenance approach. Were the appliances serviced regularly and by competent technicians? Failure to maintain components properly is generally a tradeoff for shortened service life.
- If you sell or buy a home, use these service life numbers to assess some likely issues will be for you. The components in your home that are near the end of their service life may be a concern for a buyer. When possible, use maintenance records to defuse such issues. Likewise, as a buyer, question your inspector and the owner about the age of various house components. Determine which, if any, are at the end of their service life. Factor the cost of replacing these components into your investment. Ask the seller for maintenance records on key components.



## LIFE EXPECTANCIES

Here are some excerpted average life expectancies from the NAHB report, sorted by increasing time.

APPLIANCE	LIFE IN YEARS
Compactors	6
Dehumidifiers	8
Humidifiers	8
Flooring, carpet	8-10
Dishwashers	9
Microwave ovens	9
Refrigerators, compact	9
Exhaust fans	10
Washers	10
Water heaters, gas	10
Air conditioners, room	10
Garage door openers	10-15
Wood decks (southern U.S.)	10-15
Freezers	11
Water heaters, electric	11
Disposers, food waste	12
Dryers, electric	13
Ranges, electric	13
Refrigerators, standard	13
Boilers, electric	13
Range/oven hoods	14
Ranges, gas	15
Air conditioners, unitary	15
Furnaces, warm air, electric	15
Heat pumps	16
Furnaces, warm air, gas	18
Furnaces, warm air, oil	20
Roofing, asphalt shingles	20
Boilers, gas	21
Flooring, engineered wood	50+
Flooring, all wood	Life of home

## NOTES

- The subject NAHB report is the result of a survey of manufacturers, trade associations and researchers. It is NOT a survey of homeowners and their experiences.
- The report does not attempt to correlate results with quality of the materials or installation. One must assume that these numbers are averages across all THE quality alternatives of a given component.
- The report and this summary should be used as a general guideline only. None of the information should be interpreted as a representation, warranty or guarantee regarding the life expectancy or performance of any individual product or product line.