

GEW87-14

606.2.2.4 (New), Table 606.2.2.4 (NEW), Chapter 12

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Add new text as follows:

606.2.2.4 Absorption Cooling Systems. The efficiency of absorption cooling systems shall comply with the provisions of Table 606.2.2.4 based on the test procedure referenced in the table.

**TABLE 606.2.2.4
ENERGY-EFFICIENCY CRITERIA FOR ABSORPTION COOLING SYSTEMS**

Product Type	Minimum IPLV	Minimum COP	Test Procedure
Air-Cooled, Single Effect	-	0.63	AHRI 560
Water-Cooled, Single Effect	-	0.74	AHRI 560
Indirect-Fired, Double Effect	1.10	1.05	AHRI 560
Direct Fired, Double Effect	1.05	1.05	AHRI 560

IPLV = Integrated part load value; COP = Coefficient of performance.

Add new standard as follows:

AHRI

560-00 Absorption Water Chilling and Water Heating Packages

Reason: This new table will ensure that absorption cooling systems, if used, will meet efficiency levels that are only about 5-6% improvements over their current minimums as shown in ASHRAE 90.1 and IECC. It should be noted that the minimum efficiency for this equipment has not changed since the 1999 version of ASHRAE 90.1, while the efficiency of nearly all, if not all other cooling equipment has increased significantly since that time.

These technologies with higher efficiencies are currently available on the market place, as shown on the following web sites:

http://www.khi.co.jp/english/news/detail/20130221_1e.html

http://www.hitachi-ap.com/products/business/chiller_heater/absorption/index.html

http://www.johnsoncontrols.com/content/dam/WWW/jci/be/integrated_hvac_systems/hvac_equipment/chiller_products/absorption_two_stage/155.17-EG1.pdf

Other factors to consider: Absorption technologies can be combined with solar hot water systems to use the solar heat to create cooling, thereby increasing the overall efficiency of the cooling system (which is very low compared to electric cooling systems). They also use water as the refrigerant.

Cost Impact: Will increase the cost of construction. There are higher initial costs associated with higher efficiency systems.

Analysis: The standard AHRI 560-00 is referenced by one or more 2012 I-codes.

GEW87-14: 606.2.2.4 (NEW)-ROSENSTOCK510