HOW DOES THE AMPICO RATE?

I'd like to comment on an article (not pasted or referenced here) regarding the Ampico system. Mind you, I love BOTH the Ampico and the Duo-Art equally. They both have excellent features and both are excellent reproducing pianos. That said:

There are some very wrong misgivings about both the Ampico model B and model A that don't seem to want to go away. I will iterate a few of them out of this sorry (but unnamed article) quoted here.

1) *The **paper, the boxes and the wood** was the lowest quality I have ever seen, and when it came to the metal parts, they used "white metal" which was even worse than the wood.*

2) *Those **so-called "bakelite" flanges** on each end of the spool are left over scraps from the old 78 RPM record industry that they got cheap.*

3) ***Clarence Hickman told me that he thought the A was made of cheap materials,** and he insisted that Stoddard use better quality materials for the B. Talk about right from the horse's mouth. Ampico used wood better suited for fruit crates, and put on a cheap flat black finish. It looks crummy and cheap, because it is crummy and cheap.*

4) ***The Ampico wind motor** is only a 5 point motor, needing a 72 degree pulsation and not as smooth or strong at slow tempos. That was OK, though, because the Ampico system does not work well at slow tempos, allowing American Piano to save even more money.*

5) ***The Ampico system** uses normal sized perforations for its expression controls, as opposed to Aeolian's Themodist "snakebite" holes, which are smaller than the note holes. The result of this is that Ampico rolls must play at a much faster tempo to get the lock-and-cancel gizmo to bring out accents.*

6) ***The Knabe pianos** were a quality instrument until the American Piano Co. got their hands on it. Has anyone ever seen a Knabe grand where the soundboard bridges were not all cracked and split? I wonder how much money they saved by using this junk wood instead of maple which is the right material to use.*

7) *After 1925 or so, Ampico finally realized that when **the damper pedal** is raised, the piano will play louder, so they built in absurd and cheap compensating pneumatics made out of balsa wood or something, to make the piano play 1% softer when the dampers are up.*

8) ***The pianists Ampico would hire*** *are usually second and third rate musicians such as Howard Brockway and Margurite Volavy who have been forgotten. That's actually a charitable description since they were never too famous or remembered in the first place.*

9) *The majority of pop rolls were played by* ***the "house pianist" Adam Carroll****, an uninspired nincompoop who almost always gave bland arrangements that have as much verve and distinction as a half pitcher of lukewarm parsnip juice.*

10) *He (Stoddard) also insisted that* ***playing notes be extended*** *because he felt that this would record the "soul of piano playing." This is utter nonsense, and it was done simply because when Ampico rolls are played on cheapo players that either didn't have a damper pedal, or a non-working one, the music would sound "smoother."*

OK, that's the main thrust of the article as quoted and I think you can see here that the author is relying strictly on his zeal for descriptive adjectives and ability to exaggerate colorfully to "get you in the mood." But suppose I would take each point, and objectively and fairly answer it? Would that change his opinion? Of course not. Will that change the opinions of anybody else who "hates" something and doesn't want to hear the other side? Of course not. But you know, it is kinda FUN to see what percentage of this article is meat and potatoes, and how much of it is just salad dressing after it's all said and done. So here we go by the numbers:

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1) The wood in an Ampico model A (as we call it today) was a soft wood, mostly, and I agree with him on that point, to a degree. However, since the writer was making a comparison to the Duo-Art as being the "ultimate" in perfection and craftsmanship as well as the ultimate in reproducing quality, I'll have to split my decision, here.

As far as quality is concerned, Ampico was just as good as Duo-Art but smarter because they used red gum throughout. Red gum is 1) easier to machine, 2) quicker to season, 3) seals tighter than maple or poplar, 4) warps not at all, unlike poplar, 5) has far less waste and unusable board feet per tree, 6) stays sealed with thick shellac better. (Example-- valve blocks and air motors) 7) and true, it doesn't hold screws nearly as well as maple, but as well as southern poplar—the wood of choice by Duo-Art.

That said, Duo-Art didn't use maple in the single most important component of all which required the most shear strength-- the stack. Ampico did use maple there. Instead, D/A relied on a massive stack of poplar, and interconnected, multi-braced shelves, trussed against sagging on musical crashes, which also relied on its case cover. It was physically huge and impossible to service in the piano. That was the trade-off. Notice here that we consider both pianos, and admit to strengths and weaknesses of
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each one. I don't need the adjectives. I need only the physical facts that anybody can check up on and prove conclusively, for themselves.

Regarding the roll paper and boxes are concerned, The Ampico paper was better, all except for a certain special run of rolls that British Aeolian made, called **Duo-Art Annotated Series**. The paper in these rolls were special archive paper with low acid content, as can be shown yet today. Since it is the acid content in paper that determines how long it will last, check on an old Ampico roll sometime, dating back before 1920, even, and compare that to an American Duo-Art roll of the same era. The American Duo-Art roll will be yellowish in color, and very crispy in comparison. That is a fact. British Aeolian used better paper, throughout. But we here in America where it was invented take the brunt. Aeolian used a lower quality paper with higher acid content than did Ampico. The roll boxes were equivalent. If you take them apart and mike the cardboard, the paper cover, the construction, etc. there isn't any difference at all that I can measure. But don't take my word for that. Do it yourself, and prove me wrong. I don't mind being called on something.

2) I frankly prefer the so-called "Bakelite" flanges to metal flanges, any old day! By the way, the old phonograph records he thought these flanges came from, didn't. He's thinking of the shellac and carbon compounds. Bakelite is not shellac and carbon. Now yes, when you drop these rolls, the flange will break because they are very brittle. But So did Duo-Art rolls, since their flanges were made from exactly the same stuff! And while Duo-Art also used metal flanges, they are responsible for more torn up and unusable rolls today than a bad tracking piano (in America). You can, however, repair a broken flange if you have some glue, you know. You can barely see a line where it was fixed. Not so with a bent or rusted metal flange. ***And the rust comes from the acid in Duo-Art roll paper, plus entrained moisture. They self-destruct, just sitting in their box.***

3) I also met Clarence Hickman in Philadelphia and learned that his memory for any of the details at Ampico was vague, at best. I also listened to other conversations and heard him tell us all, in a speech, what a great man he thought Charles Stoddard was! He had nothing but the highest praise for the man, and took absolutely NO CREDIT at all, for anything he ever did for them. So the idea that he told someone what kind of cheap materials that phony Stoddard tried to use and how he tried to get Stoddard to raise the bar a little is ludicrous. And Dr. Hickman made that perfectly clear. He also made it clear that Charles Stoddard was JUST THE OPPOSITE. He was a quality freak, actually, and Clarence gave some examples to prove that! Dr. Hickman also told us what high praise Stoddard gave him all the time, and didn't want to take credit for anything. Stoddard was always thrilled with Hickman and this was Hickman's chance to pay Mr. Stoddard back just a little for how sweet a job Hickman had at Ampico. 'Nuff said. Ampico used the highest quality of materials in the business. Let me give you a few examples.

I have a long letter by a fellow who was a tech for Ampico who set up the comparison performances, on-stage. I also have some of the original leather, pouch materials, and other things used by Ampico and sealed in metal. Don't tell me they didn't use the

finest materials. The pouch leather measured 5.5 thousandths and was tight, even before they sealed it. There were zero pin holes. It came from registered herds of Scottish Highland long-haired sheep bred especially for that purpose. Few other companies used that finest grade. There were grades of that leather, also. Koehler and Campbell used a lower grade of it for their first players, but later on switched. The Standard Action was one of their products.

Pneumatic and bellows cloth was, in my opinion, good. It had less filler and when new, it was highly supple, but the better the grade of natural rubber, the quicker it times out. In my opinion, Duo-Art had the best pump feeder cloth that was made. It was the perfect balance of natural rubber, stabilizers, and filler. But that doesn't detract in any way from Ampico. Both represented the finest money could buy, and the differences were not as much a matter of cost as the expert opinion of the day. The exact same materials were still used by the model B Ampico. Each company had their own specifications for rubber formulation and their own suppliers.

The reason Ampico was so critical, sensitivity-wise was because the valves operated at below 5" of vacuum reliably on either model, and on (in some cases) 6 feet of tracker bar tubing. If you were to connect a Duo-Art valve of the older style into this test setup (which I have done), using its own pouch, cross valve seats, bleed, etc. and operate it for repetition, it won't even budge! Forget testing it for the repetition. You have to raise the vacuum almost ¾" before it starts to respond, but it won't adequately operate until you shorten the tubing. But then, it was *not designed to play* under those conditions. I don't fault Duo-Art, at all. It was design to play on 2 feet of trackerbar tubing, not 6 or 7.

4) The Ampico wind motor is frankly a highly responsive motor and when its governor is restored *correctly*, is an excellent combination. I have run a restored air motor on the air supplied by a #70 fixed bleed. Try that, sometime! To give Aeolian its due, I have always felt the best air motor ever built was their 3 point motor. I love it. And their regulator was superior in some ways, but also in some ways, it isn't. For instance, the control levers which exert weight downward on the reroll and tempo wires tend to lift the sliding pallets and throw off the tempo. They hang on the control wires and against the light flat springs that keep the sliders against their holes. That was never a good idea and they didn't change it. They could have, with just a simple vertical hook into a slot in the slider, instead of a horizontal one capable of lifting it up.

The belief that Ampico didn't use slow tempos is true *for the most part*, but there are a few early Ampico rolls with a 50 tempo and no reproducing roll goes slower than that. So much for the D/A-Ampico tempo comparison.

5) The Ampico System is a totally different concept from the Duo-Art. The irony being that Charles Stoddard held the major patents for the Aeolian Duo-Art and sold them to Aeolian for royalties as well as the outright sale. The reason Stoddard didn't like the Duo-Art idea was first of all, the weakness of the roll created by long marginal perforations, held down for as long as an intensity was called for, or to set up the accordions, which required too long a time,

compared to the time it took to play them, then to get rid of them and start setting up another level. It weakened the roll too much, especially during the loudest passages. And with crispy Duo-Art rolls today, these tear right up. Conversely, Stoddard had the basics of the Ampico system invented for him by Louis B. Doman. He saw the advantages of it immediately, and set out to make it a practical device. So Stoddard wasn't a hard-head and didn't think his stuff was better, just because he came up with it. He liked Doman's idea better than his own, dumped his own, and bought the rights to Doman's invention.

The next problem he foresaw was, the Duo-Art was too inefficient. It's pump had to be about 30% larger capacity, and even that wasn't enough. It then had to be driven with a bigger motor and larger pulley and turned faster, as well. The piano had no feedback. Everything was accounted for on the roll, and the editing department had to be well-trained, because much of the editing was strictly seat-of-the-pants musical impressions. Robert Armbruster told me that at one time, Aeolian had a mimicking device that allowed him to insert some of the expression while the artist played the registering piano. Being a prodigy and quick, he was the only one who ever mastered it. To say it wasn't used a whole lot is an understatement. But that was the only way a Duo-Art roll could be mastered.

If you ever want to compare instrument efficiency sometime, get the Ampico roll named Bolero by Ravel. I don't think you'll find the Duo-Art Roll named Bolero, but were you to do so, the Duo-Art would have long since gassed out. Too many notes at too loud a level, at too fast a frequency. The ordinary Duo-Art would require two pumps. The Ampico B does it with one GOOD pump, but the model A plays it almost as well (it's a killer). There are other more common rolls in which you can hear the Duo-Art losing power very momentarily. There are no rolls in which that ever happens to either Ampico, in my experience at least.

While Duo-Art expression perforations were continuous, Ampico utilized the lock and cancel system, like the Welte, which didn't challenge the paper. Ampico also ran 3:1 Masters to make their copies, as opposed to 2:1 for every other system. That gave them a 33% better precision in the roll-cutting business. Any roll cutter today will tell you that and agree with it. You see, that cost Ampico 33% more money just to cut each master, not to mention checking the copies, but Stoddard felt the results were worth it! I do, too. So did Rachmaninoff.

6) The Knabe Company was not run by American Piano Co, by the way. They had nothing to do with the way **Wm. Knabe Co**. built pianos. Neither did **Mason & Hamlin**. But I agree wholeheartedly with the author that Knabe was using some really POOR quality spruce and maple, and they cracked up something awful, but so far, I've never had one that I couldn't fix.

To their credit, the Knabe was a brilliant ***scale design***, and the Ampico Co. used 4 Concert Grand Knabes to take on the road for their comparison performances. Accompanying these magnificent instruments were always a minimum of two world-

reknown classical pianists. The audience and music critics in the audience were sometimes given score cards to mark down when they thought the piano was playing, and when the artist was doing it. Obviously, the artist was not going to degrade his virtuosity to the level of an inferior player interface and ruin his reputation for the purpose of selling Ampicos. The critics would have sent up an uproar.

These comparison performances were very popular and Aeolian did not and could not compete, because the Duo-Art doesn't have enough discrete intensities available to extend past a parlor grand's top dynamic. But a concert grand is normally 4 times as powerful. The D/A system would require two more accordions per side, and 4 more expression tracks on the roll. It also requires an off-stage pump in addition to the one under the piano to supply enough power. So the one-time concert of the Duo-Art had their pieces selected carefully, and then re-edited for the concert stage. The Ampico only required the addition of another electric motor and two sets of pulleys to double the speed on the pump already mounted to reach 90 inches of vacuum. I have done that, and the concert grand fills the auditorium without a mike. I have also showcased a Steinway AR Duo-Art (not the concert model) and with everything raised up as high as we dare go, we still had to mike it, but it would not have worked even with a 9 foot grand. The power isn't available. The Duo-Arts were specifically designed for home grand use. The Ampico was designed for any size piano you could conceive because in the Ampico, everything expressive is relative (proportional). In the Duo-Art, the expression is fixed and absolute. That limits it to certain selections and in a smaller room other than a concert hall.

7) The early Ampico damper pedal was just plain crappy. I'll give him that. And I have always suspected that one of the reasons for extended note perforations was for the purpose of creating a very precision sustain pedal.

That said, the kicker is, both Aeolian and American used extended note perforations! Aeolian just used them less, but they were there. It was always used for the purpose of sostenuto in both pianos, but also for damper pedal in both. Sorry, fellas. That's the way it is.

The quickness of the early Ampico pedal can be vastly improved by the way, by some 'different" valve regulation techniques, yet keeping the same pedal valve block and not changing out anything. It's all done in the re-regulation of the restored instrument. I don't think anyone could tell me it's slow to return, on a finished instrument. This is noticed far more on late Ampico B rolls turned out by Aeolian-American who were no longer under the constraints of Ampico leadership. So to test an Ampico A sustain pedal, use a late model B popular roll.

The silliness of the "compensating pneumatic" was undoubtedly one of Stoddard's "senior moments." It was strictly an advertising gimmick to keep up with Aeolian advertising. The truth? Ampico NEVER needed a loud pedal compensation, because of all people, they had a sophisticated testing laboratory **unlike Aeolian**, and knew exactly to the .001 db how much louder the sustain made the piano. Actually, the term "loud" is erroneous. Volume is correct. Ampico measured that effect on the ear (strictly) and coded the correction into every Ampico roll. So when the "compensator" came along, it was made small enough to be ineffectual, but

something to point to and say, “See, we have one of those, too.” Duo-Art advertised these finer points in the New Yorker and Etude, and similar high-brow publications, and was making American Piano Co. look like a me-tooer. All the while, the truth was just the opposite.

8) The pianists Ampico hired were certainly not top draw American classical artists, but were excellent in their own right, most were trained in Europe, Holland, and Russia, and they grew as time went on. Then an artist named Milton Suskind argued with Rachmaninoff (who didn’t like anybody’s playing) and finally challenged Rocky to a play-off with an Ampico. Duo-Art had virtuosos on a contractual basis but also a stable of artists whom they really cheated the socks off of—like Paulene Albert who received $50 for each recording, take it or leave it. She told me all about that, and was bitter about it until her death. (That was not Armbruster’s doing, by the way). Granted, in those days the women took the back seat in everything regardless how great they were. But Aeolian told their artists that their own rolls would put them in high demand for concerts—which was decidedly untrue. They sold the “right” to make a roll on the basis of nearly free advertising. Not very many men would fall for that, but women apparently did.

The most important thing to realize is that the Duo-Art debuted on stage at Carnegie Hall and already had a following, two years before Ampico made it to market. By that time, Aeolian had dozens of top artists under an exclusivity contract and paid them handsomely to record for them, while Stoddard was still struggling with his last bit of manufacturing equipment. American Piano Co was struggling, right along with him.

The fact that at the last, the most precise artist to ever hit the classical world by storm, Rachmaninoff, who didn’t like Duo-Arts and had never heard an Ampico finally chose Ampico, even though Aeolian promised him the world, first. He wasn’t like other artists, who were dazzled by the money. He wanted the reputation. That is why Duo-Art aficionados can’t understand how Rachmaninoff could have ever ignored the Duo-Art and chosen the Ampico. But he did have a lot of respect for Milton Suskind and his pianistic abilities. Therefore, Suskind could talk personally with lots of credence to Sergei and he would respect what he was being told. That’s why Rachmaninoff recorded for Ampico. He was challenged by Milton to find any flaws at all in the reproduction of his playing. He was told, “*We can bring it right up to every nuance of your skill, so try it and see what happens. What do you have to lose?*” (paraphrased, of course).

By 1925 though, Ampico had as many top draw pianists as Aeolian. Their 1925 catalog lists over 251 artists, mostly classical, and mostly European-trained. The reason? The Comparison Concerts! [*Duo-Art lists 256 artists in 1927 but not all of these were under exclusive contract anymore. For example Alfred Cortot.*] You cannot argue with success. It took ten years, but Ampico far exceeded their wildest dreams in catching and surpassing Aeolian. Look at the list. The names are legendary in the music business and the concert circuit. And although Aeolian

also contracted the greatest names in music too, Ampico was equal and now surpassing them. Given another decade, and the Duo-Art would have been history. Grieg, Godowsky, and Gabrilowitsch are but a scant hint of the talent Ampico had lined up to record. And to their greatest accolades, they had far more composers than anybody else. Bachus, Dohnanyi, Friedheim, Grieg, Herbert, Ilgenfritz, Kreisler, Lhevine, Ornstein, Rachmaninoff, Zucca, Yon, Saint-Saens, Scriabine, Souvaine, Sullivan, Stojowski, Strauss, Rosenthal, etc. etc. etc. and anyway, you get the picture.

These men and women endorsed the Ampico to the exclusion of all others, exactly in the same way that Duo-Art artists endorsed their chosen instrument. But consider this—Ampico endorsements were not a lifetime contract to "the only game in town" when they happened. All of their endorsements were AFTER the artists had a choice of at least 4 large reproducing piano companies in America to choose from.

9) Adam Carroll was a great popular pianist, and the only way you could compare his playing to "parsnip juice," is if that's the way your particular Ampico played it. He was really good. And he could play in many different styles, as well, including Vincent Lopez, etc. All pop player artists "embellished some of their own works, Duo-Art included. So when you speak of pop artists, you refer to both playing, and overplaying.

Rudolph Friml was a great artist and composer contracted to Ampico, who was to play his own Amour, Toujour, L' Amour, but for some reason he wasn't able to do it and chose Adam Carroll to take over for him, if he pleased. Adam had never even seen the piece of music he was about to play. But as the story goes, he looked it over for about ten or 15 minutes without a piano, then sat down to the registering piano and with two note-taking editors in the room with him, made the recording. What you hear then in this roll was Adam's first and only take on it. It is said the editors both had tears in their eyes. Now my question is this—those who hear this recording on their own Ampico and don't get a little emotional the first few times they hear it have something drastically wrong with their piano! Don't blame the messenger, folks. It's the rebuilding.

10) The controversy with extended notes to do the pedaling was something that Aeolian took great exception with—all the while, and at the same time, doing it, themselves. They would put this stuff in advertisements, as though they invented it, when actually, Charles Stoddard invented their player for them! Stoddard always went for efficiency and Duo-Art always went for "over-engineering." Now both philosophies have their upside and I don't gripe about what I'm given to restore. I love both instruments. But here's the dirty little truth. Were the Duo-Art to program their rolls with extended note perforations, they would run out of gas. The Duo-Art cannot hold down notes like that number you see in the Ampico, and have any vacuum left upon the release, for the next wave. That's WHY they had to have a fast and powerful, and expensive sustain pedal operator with two to three valves each, to control the sustain.

So what Aeolian did to counter this built-in deficiency was, they told conservatories that a student, trying to study the great artists, would be confused watching a piano that sustained superficially without the pedal. Then, they told conservatorists that the tone of such a recording is also changed as a result. That's when Ampico picked up on their scheme here, and Clarence Hickman (who had no dog in that fight whatsoever) bet anybody a pack of cigarettes that they could not tell the difference. He had a roll punched both ways—with extended notes and without, but using his new pedal operator. He said in his diary that he won a number of packs of cigarettes doing that.

Then Stoddard took that to a seminar talk which he gave one time, and told them that tests had been done, and the tone was no different, at all. That defused Aeolian completely, especially when he happened to mention that, by the way, all reproducing rolls do it, but you cannot tell when it happens, just by listening. The difference is now only to what degree.

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Summary

There are many ideas and theories as to how the Ampico is coded, but the people who really know the answer are not going to tell you in detail so you can do it, yourself. What's the use? What do they gain, but to spill the beans that they've worked for years to understand? But let me just say this about the models A and B. If the model B is restored in every aspect, it will (despite all that you have heard over the years to the contrary) play AT LEAST as well as the best model A on A-rolls. It also goes one better on the B rolls. That was an INITIAL CRITERIA of American Piano Co to Dr. Hickman regarding his new Ampico.

From **The Ampico Reproducing Piano**, edited by Richard J. Howe, pg 110:

Barden: Peter Brown said that you fought with Stoddard a little bit over having the B rolls work on the A piano and vice versa.

Hickman: Yes, I didn't get anywhere with him. Well, he couldn't get into it because that was POLICY set up by the president and vice president. But it actually broke my heart to think that we had to actually make the quality on the new piano rolls less so that they would work on the old one. But we finally doped it out so that we didn't lose too much.

Barden: But it's noticeable, and there are some sections where there's a problem.

Hickman: No. I think we did a pretty good job on that. It looked like a pretty tough problem when it was first patented.

There's a multitude of reasons why rebuilders and owners believe that Hickman is wrong and Barden and all the rest are correct, so let me sum them up briefly—to restore an Ampico B (as well as the A) means to replace every last speck of working and sealing soft materials, OK? Now, you have your one and only clue I intend to leave with you. And when you say, "*Why, that*
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looks perfect. It looks brand new, matter of fact. I can't bring myself to remove it. Why, it would be….CRIMINAL…" then I have no more sympathy for you. You got what you asked for—a half-way playing Ampico, and now, you're blaming the piano, the company, the designers, and everybody else, except yourself? Hmm.

Between a Duo-Art and an Ampico, without question, the Duo-Art is the easiest to make work again with a minimum of restoration and replacement. The Ampico is only a shell of its former self if you leave any working soft material in that player piano that was original. Yes, I am also referring to inside flaps and seats of the pumps—all you guys who say, they look perfect. I think I'll just leave those right there. Does that mean then that the Duo-Art is built like a tank? Nope. **What it means is, the Duo-Art has no feedback systems to rely on and the leakage of various valves and other components *are a much smaller percentage of the total leakage going on almost all the time through the expression box spill hole*, so leaky components are not nearly the problem in a Duo-Art that they are in an Ampico. Are we making sense, yet?**

Now that doesn't mean that either one is "just a pile of junk." It does mean that the Ampico relies on strict pneumatic efficiency or else it is just a mediocre player. What suffices for the one momentarily will not suffice for the other. So let's start blaming ourselves for a change, OK? You NEVER get anywhere blaming somebody else. But if we look to see where we are actually taking shortcuts, I promise you that most will find them, and then they will be corrected. It's just amazing what happens when after we learn something, we utter the little word, "Oh!" It's almost like a magic wand, sometimes.

I love both Duo-Art and Ampico. They truly mutually excel each other. The bottom line here is that they both play to perfection when restored to perfection, but that doesn't mean "Close to perfection," in the case of the Ampico. In the case of the Duo-Art however, you have much greater latitude. What causes the quality of restoration to finally be known in the Duo-Art is how many years it lasts before it craps out. So if your player played another 25 years, then what you got was a half-way 'restoration," which I call, "selective repairs and a line of bull." In our temperature and humidity-controlled homes today, 25 years for a pneumatic operated player is no different than a 25-year old kid. He's just feeling his oats. Think in terms of 50-60 years. That's a fair test in places that keep a moderate humidity constant and the temperature is evenly regulated.

Craig Brougher