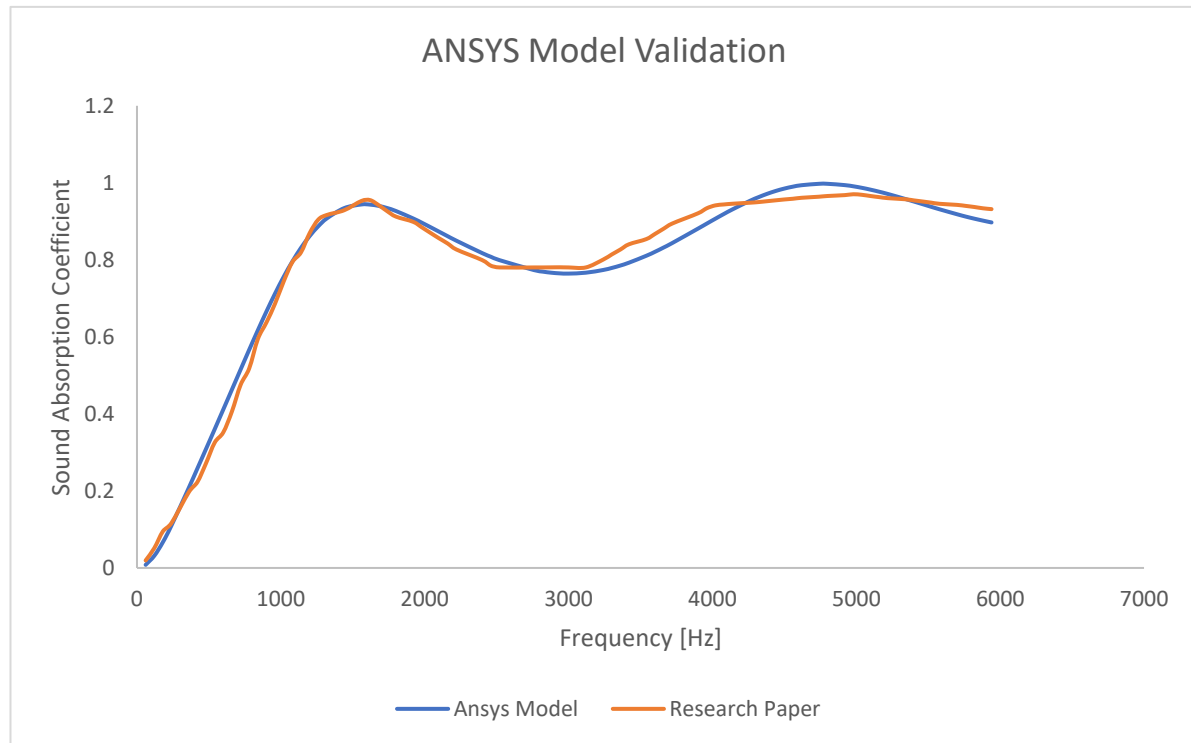


| From Ansys |          | From Research Paper # |             |           |
|------------|----------|-----------------------|-------------|-----------|
| Frequency  | SAC (y1) | Frequency             | SAC (y2)    | sq(y1-y2) |
| 60         | 8.07E-03 | 67.9812751            | 0.019461403 | 0.00013   |
| 120        | 3.14E-02 | 103.425991            | 0.051337741 | 0.000397  |
| 180        | 6.70E-02 | 197.945234            | 0.095017345 | 0.000786  |
| 240        | 0.1105   | 233.38995             | 0.116819557 | 3.99E-05  |
| 360        | 0.20799  | 369.261361            | 0.196698352 | 0.000128  |
| 420        | 0.25841  | 410.61353             | 0.223199317 | 0.00124   |
| 480        | 0.30915  | 481.502962            | 0.272066344 | 0.001375  |
| 540        | 0.36019  | 552.392394            | 0.325444174 | 0.001207  |
| 600        | 0.41158  | 587.83711             | 0.352133089 | 0.003534  |
| 660        | 0.46327  | 652.819089            | 0.406450669 | 0.003228  |
| 720        | 0.51505  | 723.708521            | 0.475240407 | 0.001585  |
| 780        | 0.5665   | 770.968143            | 0.518093031 | 0.002343  |
| 840        | 0.61706  | 853.67248             | 0.594212824 | 0.000522  |
| 900        | 0.66602  | 900.932102            | 0.637629298 | 0.000806  |
| 960        | 0.71262  | 954.099176            | 0.686684275 | 0.000673  |
| 1020       | 0.75611  | 1024.98861            | 0.744197008 | 0.000142  |
| 1080       | 0.79578  | 1095.87804            | 0.794191735 | 2.52E-06  |
| 1140       | 0.83108  | 1131.32276            | 0.81937705  | 0.000137  |
| 1200       | 0.86161  | 1202.21219            | 0.869183827 | 5.74E-05  |
| 1260       | 0.88715  | 1267.19417            | 0.904330497 | 0.000295  |
| 1320       | 0.90766  | 1338.0836             | 0.916547254 | 7.9E-05   |
| 1440       | 0.93424  | 1408.97303            | 0.928764011 | 3E-05     |
| 1560       | 0.94384  | 1550.7519             | 0.952821624 | 8.07E-05  |
| 1620       | 0.94338  | 1621.64133            | 0.955077025 | 0.000137  |
| 1680       | 0.94006  | 1692.53076            | 0.941920518 | 3.46E-06  |
| 1740       | 0.93438  | 1763.42019            | 0.926132709 | 6.8E-05   |
| 1800       | 0.92676  | 1834.30962            | 0.912224401 | 0.000211  |
| 1920       | 0.9074   | 1905.19906            | 0.898691994 | 7.58E-05  |
| 1980       | 0.89637  | 1976.08849            | 0.884407786 | 0.000143  |
| 2040       | 0.88484  | 2046.97792            | 0.869935628 | 0.000222  |
| 2100       | 0.87307  | 2117.86735            | 0.85583937  | 0.000297  |
| 2160       | 0.8613   | 2188.75678            | 0.842306962 | 0.000361  |
| 2220       | 0.84969  | 2259.64622            | 0.826895054 | 0.00052   |
| 2400       | 0.81741  | 2401.42508            | 0.799266388 | 0.000329  |
| 2460       | 0.8079   | 2472.31451            | 0.78479423  | 0.000534  |
| 2520       | 0.79916  | 2543.20394            | 0.780283428 | 0.000356  |
| 2760       | 0.77332  | 2755.87224            | 0.780283428 | 4.85E-05  |
| 2820       | 0.7694   | 2826.76167            | 0.780283428 | 0.000118  |
| 2880       | 0.76656  | 2897.6511             | 0.780471378 | 0.000194  |
| 2940       | 0.76484  | 2968.54054            | 0.780659328 | 0.00025   |
| 3000       | 0.76428  | 3039.42997            | 0.780283428 | 0.000256  |
| 3120       | 0.76662  | 3110.3194             | 0.780283428 | 0.000187  |
| 3240       | 0.77365  | 3252.09826            | 0.800582039 | 0.000725  |
| 3300       | 0.77887  | 3322.9877             | 0.813926496 | 0.001229  |

|      |         |            |             |          |
|------|---------|------------|-------------|----------|
| 3360 | 0.78522 | 3393.87713 | 0.826707104 | 0.001721 |
| 3420 | 0.79267 | 3464.76656 | 0.840427461 | 0.002281 |
| 3540 | 0.8105  | 3535.65599 | 0.853771919 | 0.001872 |
| 3600 | 0.82078 | 3606.54542 | 0.867116376 | 0.002147 |
| 3660 | 0.83182 | 3677.43486 | 0.880648784 | 0.002384 |
| 3720 | 0.84349 | 3748.32429 | 0.894181191 | 0.00257  |
| 3900 | 0.88112 | 3890.10315 | 0.920870106 | 0.00158  |
| 3960 | 0.89397 | 3960.99258 | 0.933838663 | 0.00159  |
| 4020 | 0.90672 | 4031.88202 | 0.941356668 | 0.0012   |
| 4080 | 0.91918 | 4102.77145 | 0.943800019 | 0.000606 |
| 4140 | 0.93115 | 4173.66088 | 0.94567952  | 0.000211 |
| 4260 | 0.95311 | 4244.55031 | 0.948310821 | 2.3E-05  |
| 4320 | 0.96275 | 4315.43974 | 0.950002372 | 0.000163 |
| 4380 | 0.97135 | 4386.32918 | 0.952257774 | 0.000365 |
| 4440 | 0.97883 | 4457.21861 | 0.954513175 | 0.000591 |
| 4500 | 0.98509 | 4528.10804 | 0.956768576 | 0.000802 |
| 4560 | 0.99007 | 4598.99747 | 0.958648077 | 0.000987 |
| 4620 | 0.99379 | 4693.51672 | 0.961091429 | 0.001069 |
| 4740 | 0.99739 | 4764.40615 | 0.96391068  | 0.001121 |
| 4800 | 0.99738 | 4835.29558 | 0.965790181 | 0.000998 |
| 4920 | 0.99402 | 4906.18501 | 0.968045583 | 0.000675 |
| 4980 | 0.99088 | 4977.07444 | 0.970300984 | 0.000423 |
| 5040 | 0.98689 | 5047.96388 | 0.968797383 | 0.000327 |
| 5100 | 0.98212 | 5118.85331 | 0.965602231 | 0.000273 |
| 5160 | 0.97677 | 5189.74274 | 0.96278298  | 0.000196 |
| 5220 | 0.97096 | 5260.63217 | 0.960151678 | 0.000117 |
| 5340 | 0.95809 | 5331.5216  | 0.957332427 | 5.74E-07 |
| 5400 | 0.95143 | 5402.41104 | 0.954325225 | 8.38E-06 |
| 5460 | 0.94464 | 5473.30047 | 0.951505973 | 4.71E-05 |
| 5520 | 0.93774 | 5544.1899  | 0.948498772 | 0.000116 |
| 5580 | 0.93104 | 5615.07933 | 0.94549157  | 0.000209 |
| 5700 | 0.91839 | 5685.96876 | 0.942672318 | 0.00059  |
| 5760 | 0.91239 | 5756.8582  | 0.940041017 | 0.000765 |
| 5820 | 0.90691 | 5827.74763 | 0.937221765 | 0.000919 |
| 5880 | 0.90184 | 5898.63706 | 0.933838663 | 0.001024 |
| 5940 | 0.89706 | 5963.61904 | 0.931620852 | 0.001194 |

**RMSE = 0.026515**



# The Values for Kenaf Fiber for reference were taken from research by :  
**Ebrahim Taban, Parham Soltani, Umberto Berardi, Azma Putra, Seyyed Mohammad Mousavi, Mohammad Faridan, Seyed Ehsan Samaei, Ali Khavanin, *Measurement, modeling, and optimization of sound absorption performance of Kenaf fibers for building applications, Building and Environment*, Volume 180, 2020, 107087, ISSN 0360-1323, <https://doi.org/10.1016/j.buildenv.2020.107087>.**