



DMF (INLINE MIXED FLOW FRP FAN)

SPECIFICATIONS

1 GENERAL

- a) Fans and stacks shall be designed and constructed so that the gas stream only contacts solid FRP surfaces.
- b) Steel fasteners within the gas contact area will be stainless steel and encapsulated with a minimum of 0.1875" (3 mm) of FRP lay-up.
- c) Motor shafts will be fully protected from exposure to the gas stream by FRP shaft sleeves.
- d) The fan shall be constructed per AMCA Standards 99.
- e) The fan arrangement will be based on AMCA 99 and will be Direct Drive AMCA arrangement #4.

Acceptable Manufacturers: Plasticair Inc.

2 AIR PERFORMANCE

- a) The performance ratings are to be in accordance with AMCA FEG for Air and Sound. No other performance standard or test will be accepted.
- b) Fan manufactures catalog will be published and accessible from the AMCA web site certified ratings program.
- c) Sound levels, horse power levels and tip speed are not to exceed what is on the schedule.

3 HOUSING CONSTRUCTION

- a) The multi bifurcated inline fan housing is to be solid FRP throughout.
- b) Housing is designed so that the motor is not exposed to the exhaust air.
- c) The outlet and inlet flanges are to be of heavy industrial quality.
- d) All flanges are to have factory flat finishes.
- e) The materials of construction will be vinyl ester resin (premium quality premium quality 0-25 flame spread) and reinforcing glass throughout.
- f) The entire surface exposed to the gas stream will be complete with a resin-rich corrosion barrier consisting of C-veil and a smooth finish.
- g) The outer surface of the housing will be of a heavy UV stabilized gel coat.
- h) The housing shall include a machined Teflon shaft seal to limit gas leakage.

4 IMPELLER

- a) The impeller is to be of a high efficiency mixed flow design.
- b) The materials of construction will be vinyl ester resin and reinforcing glass throughout.



- c) The method of construction is to be hand lay-up only.
- d) Flame spread rating as per ASTM E84 is to be Class 1 (0-25).
- e) The entire surface of the impeller exposed to the gas stream will be complete with a resin-rich corrosion barrier consisting of C-veil and a smooth finish.
- f) The motor shaft is to be attached to the impeller by way of a taper lock bushing and a one piece cast sprocket hub.
- g) The entire shaft attachment assembly is to be completely covered with a minimum 0.25"(6 mm) of FRP lay-up.
- h) The attachment will be air tight and fully protected from the airstream.

5 BEARINGS

- a) Motor bearings are to be minimum L-10 life of 110,000 hours.

6 MOTOR

- a) Premium Efficiency Motor will be a foot mounted totally enclosed fan cooled motor with a 1.15 service factor.
- b) Motor will be VFD ready.
- c) Belt drive units are not acceptable.

7 BALANCING AND TESTING

- a) All fans shall be completely assembled and test run as a unit at the specified operating speed prior to shipment.
- b) Balancing of the impeller shall be achieved only with the use of the identical material used to fabricate the impeller.
- c) Balancing shall be in accordance with ASTM D-4167.
- d) The fan shall be test run at operating speed and not shipped until vibration readings are within acceptable limits. Acceptable limits are as per G2.5.
- e) Records shall be maintained and a written copy shall be available upon request

8 WARRANTY

- a) The supplier shall warrant that all system components shall be free from defects in materials and workmanship for a period of 15 months from date shipped or 12 months from equipment start up, whichever occurs first.