DMF (INLINE MIXED FLOW FRP FAN)

SPECIFICATIONS

# General

1. Fans and stacks shall be designed and constructed so that the gas stream only contacts solid FRP surfaces.
2. 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.
3. Motor shafts will be fully protected from exposure to the gas stream by FRP shaft sleeves.
4. The fan shall be constructed per AMCA Standards 99.
5. The fan arrangement will be based on AMCA 99 and will be Direct Drive AMCA arrangement #4.

Acceptable Manufacturers:     Plasticair Inc.

# Air Performance

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

# Housing Construction

1. The multi bifurcated inline fan housing is to be solid FRP throughout.
2. Housing is designed so that the motor is not exposed to the exhaust air.
3. The outlet and inlet flanges are to be of heavy industrial quality.
4. All flanges are to have factory flat finishes.
5. The materials of construction will be vinyl ester resin (premium quality premium quality 0-25 flame spread) and reinforcing glass throughout.
6. 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.
7. The outer surface of the housing will be of a heavy UV stabilized gel coat.
8. The housing shall include a machined Teflon shaft seal to limit gas leakage.

# Impeller

1. The impeller is to be of a high efficiency mixed flow design.
2. The materials of construction will be vinyl ester resin and reinforcing glass throughout.
3. The method of construction is to be hand lay-up only.
4. Flame spread rating as per ASTM E84 is to be Class 1 (0-25).
5. 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.
6. The motor shaft is to be attached to the impeller by way of a taper lock bushing and a one piece cast sprocket hub.
7. The entire shaft attachment assembly is to be completely covered with a minimum 0.25"(6 mm) of FRP lay-up.
8. The attachment will be air tight and fully protected from the airstream.

# Bearings

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

# Motor

1. Premium Efficiency Motor will be a foot mounted totally enclosed fan cooled motor with a 1.15 service factor.
2. Motor will be VFD ready.
3. Belt drive units are not acceptable.

# Balancing and Testing

1. All fans shall be completely assembled and test run as a unit at the specified operating speed prior to shipment.
2. Balancing of the impeller shall be achieved only with the use of the identical material used to fabricate the impeller.
3. Balancing shall be in accordance with ASTM D-4167.
4. 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.
5. Records shall be maintained and a written copy shall be available upon request.

# Warranty

1. 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.