TECHNICAL NOTE 85.94

Warranty

Prepared by/Préparé par	Mike Dixon, Theresa Rondeau Vuk
Reference/Réference	19772/06/NL/GM
Issue/Edition	1
Revision/Révision	0
Date of issue/Date d'édition	2008-09-05
Status/Statut	Draft

Warranty

APPROVAL

Title *Titre*	Warranty	Issue *Edition*	1	Revision *Révision*	

Author *Auteur*	Theresa Rondeau Vuk	Date *Date*	2008-09-05

Approved by *Approuvé par*	Dr. Mike Dixon	Date *Date*	

CHANGE LOG

Issue/*Edition*	Revision/*Révision*	Status/*Statut*	Date/*Date*

Distribution List

Name/*Nom*	Company/*Société*	Quantity/*Quantité*
MELiSSA Partners		

Introduction

The following sections deal with the warranty and materials compatibility issues related to the HPC prototype.

Annex to doc TEC-MCT/2005/3466/IN/CP

Section 8.4 Material

8.4.1 Material used in the construction of the HPC prototype shall be evaluated for flammability resistance.

The only flammable materials used in the construction prototype are represented by the foam insulation material in the out shell of the chamber. This material is covered with sheets of steel which form the inner and outer walls of the chamber. There are no ignition sources in contact with this material.

8.4.2 All products considered for use in the MPP, as part of equipment HPC prototype, shall be evaluated for off-gassing and odour contaminants.

All materials and components comprising the shell and equipment in the HPC prototype were specifically selected for their non-off gassing properties. These include glass, Teflon, stainless steel, phyton and poly propylene. Components of the air handling system (fan, housing) were coated with a special oxide barrier (heresite) which is a baked enamel coating.

8.4.3 Items intended for structural application shall possess a high resistance to stress corrosion cracking.

The structural components of the HPC prototype are constructed of 3 1/6 stainless steel, 16 gauge and welded to ensure gas tight seals and corrosion free surfaces. Maintaining nominal operations procedures and preventative maintenance protocols will mitigate oxidation effects on any of the interior surfaces.

8.4.4 Organic materials used in the pressurized environment shall be evaluated for fungus resistance. Materials which are non-nutrient to fungi shall be used.

No organic materials were used in the construction of the HPC prototype therefore the risk of deterioration by fungal pathogens is non-existent.

8.4.5 Limited life material: the contractor shall ensure that all materials which have a limited life characteristics have their date of manufacture (when available, otherwise date of delivery) and shelf life expiry date accurately and clearly marked on each lot/batch.

The structural components and equipment in the HPC prototype are designed to be very robust and requiring only routine maintenance to sustain their longevity as outlined in TN 85.92.

8.4.6 Fluid compatibility: materials exposed to corrosive or hazardous fluids shall be evaluated or tested for compatibility.

As shown in the plant growth test (TN 85.82 Prototype Tests Results Document, including as-run annotated procedures) and associated calibration procedures for the hydroponics recalculating system all materials exposed to the nutrient solution were found to be compatible. During extended growing periods it is common for algae to accumulate in growth trays and other moistened surfaces. Routine disinfection with ammonia solutions resolves this between experiments. In tests, the surfaces have shown to be compatible with this maintenance protocol.

8.4.7 The HPC prototype shall have a normal life time of 5 years.

The HPC prototype will have a minimum operational life time of 5 years.