DuPont™ Oasis®

Composite Film

Description

Oasis® composite film is a family of heat sealable fluoropolymer-coated polyimide materials that are designed specifically to meet the demands of the aerospace and cable industry. The combination of fluroropolymer and polyimide film provides an excellent balance of mechanical, electrical and chemical resistance properties that are maintained over a wide range of temperatures and makes this material well-suited for many different wire and cable applications. The balance of properties offered by Oasis® makes this material an excellent candidate for use in airframe, hookup and general-purpose aircraft wires. A listing of typical mechanical and electrical properties for Oasis® can be found in the individual technical data sheets.

Oasis® films are coated on both sides with fluoropoymer coatings designed to fit the specific needs of the wire and cable industry.

Oasis® composite films are compatible with wire construction containing tin, silver, and nickel plated conductors. These products can also be used in wire designs calling for copper conductors.

Nomenclature

The product nomenclature system that is used to describe the specific construction of each Oasis® product is as follows.

Example: 200TRT515

The first three numbers of this system designate the total thickness of the composite in film gage units (or the mil multiplied by 100). In this case, 200 indicates that the composite has a total thickness of 200 gage units (or 2 mil).

The next three letters describe the polyimide film and the core fluoropolymer used in the construction of the composite tape. The first letter designates the composition of the primary fluoropolymer. In this example, the “T” designates PTFE as the primary fluoropolymer. The second letter designates specific characteristics that the fluoropoymer coating exhibits. The “R” designates that the coating has been pigmented red. The third letter designates DuPont polyimide.

The last three numbers designate the approximate thicknesses of the various fluoropolymer and polyimide layers of the Oasis® film. The first and last number in this group designate the nominal thickness of the fluoropolymer layers on each side of the polyimide film. The center number designates the nominal thickness of the polyimide layer. The thickness units for the fluoropolymer layers are in tenths of a mil. The thickness units for the polyimide layer are in mil. The numbers and their corresponding thicknesses are listed in **Table 3**.

Processing

Oasis® composite films may be wrapped on conductors using conventional polyimide tape wrapping machines. In order to obtain maximum bond strength during the heat seal operation, the surfaces that are in intimate contact should reach a temperature of approximately 280°C.

Safe Handling

Use of adequate ventilation systems allows for safe processing of Oasis® composite films. The Material Safety Data Sheet (MSDS) for Oasis®, and the “Guide to the Safe Handling of Fluoropolymer Resin”, catalog no. BP101, should be consulted for additional safety information.

Table 1. Fluoropolymer Coating Type Designations

Primary Fluoropolymer Type	Letter Designation
FEP	F
PFA	P
PTFE	T

Table 2. Specific Fluoropolymer Characteristic Designations

Fluoropolymer Modification	Letter Designation
White	W
Red	R

DuPont™ Oasis®

Composite Film

Table 3. Fluoropolymer and Polyimide Film Thickness Designations

Approximate Thickness (mil)	Fluoropolymer Thickness Designation	Polyimide Thickness Designation
0.0	0	0
0.1	1	–
0.2	2	–
0.3	3	–
0.4	4	–
0.5	5	–
0.6	6	6
0.7	7	7
0.8	8	–
0.9	9	–
1.0	–	1
2.0	–	2
3.0	–	3
4.0	–	4
5.0	–	5

DUPONT™

For more information on DuPont™ Oasis® composite film or other DuPont products, please visit our website.

electronics.dupont.com

EI-10169 (5/21)