TECHNICAL DATA SHEET

TDS# 2731

DATE: JUNE 2013

BACON INDUSTRIES

FLEXOBOND 431

FLEXOBOND 431, a two-part clear urethane system, is widely used in the medical industry, meets USP XXII, Class VI-50°C/72 hours (ethylene oxide) Testing for Plastics. This urethane system does not contain TDI, mercury, tin or lead. It gels rapidly and cures to a rubbery solid. The system can be utilized as an adhesive, encapsulant or casting compound and has good adhesion to metals, glass, and plastics, especially polycarbonate. It may be cured at either ambient or elevated temperatures and can be handled in six hours from the initiation of ambient temperature cure.

RECOMMENDED MIXING AND HANDLING PARAMETERS

Resin	Flexobond 431
Activator	BA-431
Parts by weight of activator required per hundred of resin	58.3
Work life at Room Temperature (10 g), minutes	135
Gel Time at Room Temperature (10 g), minutes	150
Viscosity of FLEXOBOND 430 at 73°F, cp	770
Viscosity of Activator BA-430 at 77°F, cp	800

Viscosity of mixed material (100 g) at 77°F, cp

Minutes from time mixed	Viscosity, cp
0	800
10	1,200
30	4,800
40	14,000
60	164,000

Recommended cure, hr/°F:	24/77 + 2/212
Alternate cure, day/°F:	3/77

TYPICAL PROPERTIES OF CURED ADHESIVE:

	Rec. Cure	Alt. Cure	3 Weeks 77°F
Color	Clear, sl yel	Clear, sl yel	Clear, sl yel
Specific Gravity	1.1	1.1	1.1
Hardness, Shore A	84	76	95
Hardness, Shore D	26	23	34
Lap Shear Strength to			
Aluminum (unprimed), psi	1300	800	-
Polycarbonate (unprimed), psi	700	300	-
Moisture Absorption, in water, %			
7 days at 77°F	0.1	-	-
7 days at 200°F	0.7	-	-

(over)

16731 HALE AVENUE · IRVINE, CA 92606-5092 · (949) 863-1499 · FAX (949) 863-0105

	Rec. Cure	Alt. Cure	3 Weeks 77°F
T-Peel Resistance to stainless steel, ASTM D1876-93 Mod., pli	10	-	-
Tensile Strength, psi	1750	-	-
Elongation at Break, %	200	-	-
TML (ASTM E595-84), %	0.358	-	-
CVCM (ASTM E595-84), %	0.002	-	-

INSTRUCTIONS FOR USE:

FLEXOBOND 431 and Activator BA-431 are degraded by moisture and carbon dioxide, Keep containers closed tightly when not in use and prevent exposure of the two materials to contamination from any source. See also Shelf Life.

Both materials should be clear, free of crystals and uniformly mixed before using. Mix at room temperature, in a hood ventilated to outside, 58.3 parts by weight of Activator BA-431 with 100 parts by weight of FLEXOBOND 431. Insure that both materials are uniformly mixed together. If bubble-free castings or seals are required, vacuum degas the mixture after mixing. All surfaces to be bonded must be clean and dry. Cure as recommended. It may be helpful to discuss other cures with a Bacon Technical Representative.

FOR INDUSTRIAL USE ONLY! WARNING! VAPOR HAZARDOUS!

CAUTION: Use with adequate ventilation. Avoid contact with skin or clothing. In case of contact, flush immediately with plenty of water. Keep containers tightly closed when not in use

WARNING: FLEXOBOND Activator BA-431 contains an isocyanate which is a strong skin sensitizer and may cause severe irritation to mucous membranes. Avoid contact with skin and eyes and avoid breathing vapors. In case of skin contact, wash promptly with 99% isopropyl alcohol (rubbing alcohol is NOT suitable) to remove activator, then soap and water. Curing ovens should be ventilated outdoors. All users should wash thoroughly. If uncured material gets into eyes, flush with water for 15 minutes. Also, call a physician at once. See MSDS for more detailed information.

SHELF LIFE:

The Shelf Life of FLEXOBOND 431 is greater than one year when stored at an ambient temperature of 80°F or below, in an unopened container.

The Shelf Life of Activator BA-431 is greater than six months when stored between 80°F and 95°F in unopened containers. Storing above 95°F tends to speed up the aging process, and storage below 80°F can result in crystallization of the material. If crystallized, it must be decrystallized at 140°F until clear by placing the partially open container in an air circulating oven ventilated to outside. The total period of time at 140°F should not exceed three hours. Use of a positive air mask is recommended. Although the crystallizing does not damage the product, decrystallizing will be necessary and this situation should be avoided. Both FLEXOBOND 431 and Activator BA-431 are moisture sensitive and containers should be tightly capped. Back-filling partially empty containers with dry nitrogen is recommended. It is best to use a new container and cover if the original container has been damaged during opening and does not then provide a tight seal. Only a rubber capping chuck should be used for screw top covers.

The Shelf Life of FLEXOBOND 431 FREEZE-PAKS is one month at -40°F and two months at -120°F.

AVAILABILITY:

FLEXOBOND 431 is available in 55 gallon drums containing 400 lb net, gallon oblong screw-top cans containing 8 lb net, quart and pint cone top cans with screw caps containing 2 lb and 1 lb net, respectively. Activator BA-431 is also available in the same five sizes and respective net weights, except the drum contains 500 lb net. In addition, FLEXOBOND 431 is available in premixed and frozen FREEZE-PAKS. See Data Sheet No 2031 and 2032 for details.