

Utilibond™ Twin Pack

BAGS OF UTILIBOND REQUIRED

		Core Diameter (inches)									
		24"	22"	20"	18"	16"	14"	12"	10"	8"	6"
Core Depth (inches)	20"	3	3	3	3	2	2	2	2	2	1
	19"	3	3	3	3	2	2	2	2	2	1
	18"	3	3	3	2	2	2	2	2	2	1
	17"	3	3	3	2	2	2	2	2	2	1
	16"	3	3	2	2	2	2	2	2	2	1
	15"	3	3	2	2	2	2	2	2	2	1
	14"	3	3	2	2	2	2	2	2	1	1
	13"	3	3	2	2	2	2	2	2	1	1
	12"	3	3	2	2	2	2	2	1	1	1
	11"	3	2	2	2	2	2	2	1	1	1
	10"	3	2	2	2	2	2	1	1	1	1
	9"	2	2	2	2	2	1	1	1	1	1
	8"	2	2	2	2	1	1	1	1	1	1
	7"	2	2	2	2	1	1	1	1	1	1
	6"	2	2	2	1	1	1	1	1	1	1
5"	2	2	1	1	1	1	1	1	1	1	
4"	1	1	1	1	1	1	1	1	1	1	

- 1 1 twin pack bag
- 2 2 twin pack bags
- 3 3 twin pack bags

INSTRUCTIONS

1. Measure core depth and diameter.
2. Follow the core diameter column on the chart down until you reach the corresponding core depth row. The number in the box will tell you whether to use 1, 2 or 3 (10 kg / 22 lb) bags of Utilibond.
3. Add water to pail:
 - For 1 bag use 1 full container (1 litre).
 - For 2 bags use 2 full containers (2 litres).
 - For 3 bags use 3 full containers (3 litres).
4. Slowly add Utilibond while mixing.
5. Mix for 3 minutes until smooth and flowing.
6. Pour Utilibond in the hole.
7. Reinstall core as per instructions.

Utilicor[™]
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REINSTATEMENT INSTRUCTIONS

The first step in reinstating a core is to properly prepare/clean the cored hole. Wipe all cut surfaces of the core and walls of the hole with a clean, damp cloth to remove all loose cutting debris and particulate from the cut surface. Proper bonding depends on achieving a clean surface for the bonding agent to adhere to.

Line the bottom of the hole with 1" bed of pea gravel. Because the pea gravel is added fill that was not present before, the compacted backfill should be left approximately 1" lower than the base of the pavement. Undercut the bottom of the existing pavement in the hole by about 1" all around to allow the pea gravel to fill under the pavement. Utilibond will impregnate the pea gravel.

Using the core puller, lower the core back into the hole and ensure that it is at the same angle as the existing pavement and approximately 1/4" below the surface level. Adjust the pea gravel until you achieve the desired result. Be sure of this step, as once the Utilibond is added you will not have a second chance.

Remove bags from pail. Determine core depth and size and how many bags of Utilibond to use (see chart). For 1 bag use one container of water (1 litre), for 2 bags use 2 containers of water (2 litres). The proper ratio of water to Utilibond is critical to effective performance. Using a handheld drill and mudslinger mixing wand mix the bonding compound until it is smooth and flowing. (3 minutes).

Slowly, pour the entire pail of Utilibond permanent pavement bonding compound into the hole. Be careful not to disturb the pea gravel base.

Lower the core down into the hole, on top of the Utilibond. Rock the core back and forth and side to side with the core puller to allow the bonding compound to flow up through the cut spaces around the core (the "kerf"), and overflow slightly onto the surface of the pavement. Remove the core puller and allow the excess Utilibond to flow up through the pilot hole. Gently tamp the the core to ensure the core is level with the surface of the pavement.

Carefully clean off the excess Utilibond from the surrounding pavement before it dries. The bonding compound will begin to set up within approximately 15 minutes (at 70° F). If you keep the paved surfaces around the drying Utilibond wet, the final clean up will be easier. Thoroughly clean all tools before the bonding compound has a chance to set.

Once the core has set and gained strength (30 minutes at 70° F), use water to clean off any excess debris on the pavement and thoroughly sweep the area before leaving. Properly dispose of all excess Utilibond material, and reuse or recycle the Utilibond pail.



MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

Product name: UTILIBOND
Product use: Non-shrink bonding compound for use in permanently replacing pavement cores.
Supplier name and address: Manufacturer name and address:
UTILICOR TECHNOLOGIES INC. Refer to Supplier.
36 Densley Avenue
Toronto, ON, Canada
M6M 2R1
Emergency Tel #: 888-572-6666
WHMIS CLASS: D2A (Chronic health, Carcinogenicity), E (Corrosive properties).

SECTION II - INGREDIENTS

LC50 / 4 Hrs LD50 mg/kg
Ingredients CAS# wt.% (Rat. inh.) (Rat. oral) (Rabbit, dermal)
Silica sand 14808-60-7 40 - 70 N/Av N/Av N/Av
Portland cement 65997-15-1 30 - 60 N/Av N/Av N/Av
Carbon black 1333-86-4 0.1 - 1 6750 mg/m³ >15,400 >3000

SECTION III - PHYSICAL DATA

Physical state, odour and appearance: Charcoal grey powder, no odour. Odour threshold: N/Av
Solubility in water: <10%. Specific gravity: 2.2
Coefficient of water/oil distribution: N/Av Vapour pressure (PSIG): N/Av
Boiling point: N/Av Freezing point: N/Av
pH: 12.5 (aqueous solution) Vapour density (Air = 1): N/Av
Evaporation rate (BuAc = 1): N/Av Volatiles (% by weight): N/Av

SECTION IV - FIRE AND EXPLOSION DATA

Conditions of flammability: Not considered flammable.
Flash point (Method): N/Av Auto-ignition temperature: N/Av
Upper flammable limit %: N/Av Lower flammable limit %: N/Av
Means of extinction: Use media suitable for the surrounding fire, such as dry chemical, foam, carbon dioxide.
Sensitivity to mechanical impact/static discharge: N/Av.
Special fire fighting procedures: Firefighters should wear proper full chemically protective equipment and self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Water spray may only be useful in cooling equipment exposed to heat and flame.
Unusual fire and explosion hazards: Product becomes alkaline on contact with moisture.
Hazardous combustion products: Carbon oxides.

SECTION V - REACTIVITY DATA

Stability: Stable under the recommended storage and handling conditions prescribed. Product becomes alkaline on contact with moisture. Hazardous polymerization will not occur.
Incompatible materials: Water, oxidizing agents, acids.
Conditions of reactivity: Keep away from moisture until product is used. Stable under ambient pressure and temperature.
Hazardous decomposition products: None known. Refer to Section IV for 'Hazardous combustion products'.

SECTION VI - TOXICOLOGICAL PROPERTIES

Routes of exposure and acute effects
Exposure limit: ACGIH-TLV: Silica, crystalline - 0.05 mg/m³; Portland cement - 10 mg/m³; Carbon black - 3.5 mg/m³.
OSHA-PEL: Silica, crystalline - 10 mg/m³ (respirable); Portland cement - 15 mg/m³ (total dust); Carbon black - 3.5 mg/m³.
Inhalation: Harmful if inhaled. Inhalation of dusts causes irritation to the nose, throat and respiratory tract. Symptoms may include coughing and inflammation of nasal tissues.
Skin: Short term exposure to dry dusts may cause mild irritation. Longer exposures or contact with wet product could cause severe irritation and/or chemical burns. Burns may be delayed.
Eyes: Direct eye contact may cause mild to severe irritation. Could cause chemical burns and eye damage if not promptly removed.

UTILIBOND Page 2 of 2 SECTION VI - TOXICOLOGICAL PROPERTIES CONTINUED

Ingestion: May be harmful if swallowed. May cause irritation to mouth, throat and stomach.
Chronic effects: Prolonged or repeated inhalation may cause severe, irreversible scarring of lung tissue (silicosis). Prolonged or repeated skin contact may cause severe dermatitis (drying and cracking).
Carcinogenicity: Contains Crystalline silica. Crystalline silica is classified as carcinogenic to humans by IARC (Group 1) and ACGIH (Group A2). Contains Carbon black. Carbon black is classified as possibly carcinogenic to humans by IARC (Group 2B).
Reproductive effects, Teratogenicity, Mutagenicity: Contains Carbon black. Carbon black may cause mutagenic effects to non-reproductive cells, based on animal evidence.
Sensitization to material: None known. Synergistic materials: N/Av.
Conditions aggravated by exposure: Pre-existing skin, eye and respiratory disorders.

SECTION VII - FIRST AID

Inhalation: Immediately remove victim to fresh air. Obtain medical attention if irritation persists.
Skin: Immediately flush skin with soap and water, while removing contaminated clothing. Obtain medical attention. Launder clothing before re-use.
Eyes: Immediately flush eyes with water for at least 20 minutes. Obtain medical attention immediately.
Ingestion: Do not induce vomiting. Obtain medical attention.

SECTION VIII - PREVENTIVE MEASURES

Spill, leak or release: Wear appropriate protective equipment for dusty conditions. Ventilate area of release. Stop leak if you can do so without risk. Sweep up or vacuum spilled material using a method that does not generate airborne dust. A dust retarding floor-sweeping compound may be used. Place contaminated, spilled material into a dry container for later disposal (see below).
Notify the appropriate authorities as required.
Waste disposal: Handle according to recommendations listed below. Dispose in accordance with all applicable government regulations.
*** PROTECTIVE EQUIPMENT ***
Respiratory protection: For prolonged exposure or if the TLV is exceeded, wear NIOSH-approved dust respirators.
Ventilation: Use in well ventilated area. Use general or local exhaust ventilation if the TLV is exceeded or is not known.
Protective gloves: Effects on the skin may be delayed. Gloves impervious to the material, such as Neoprene or PVC, must be worn during handling. Advice should be sought from glove suppliers.
Eye protection: Wear safety glasses with side shields or goggles to prevent any dusts from entering the eyes.
Other protective equipment: An eyewash station and safety shower should be made available in the immediate working area.
*** STORAGE & HANDLING ***
Storage and handling conditions: Handling: Wear protective equipment for dusty conditions during handling. Use in a well ventilated area. Avoid inhaling dusts. Avoid all contact with eyes, skin and clothing. Keep away from acids and incompatibles. Keep away from moisture until product is used. Keep container tightly closed when not in use. Wash thoroughly after handling.
Storage: Store in a cool, dry, well-ventilated area away from incompatibles. Do not allow product to get wet, as it becomes alkaline and will eventually harden. May be stored off the ground and under waterproof tarp if stored outdoors.
Special Shipping Information: Transportation of Dangerous Goods Clear Language Regulations (CLR). Not regulated for transport.

Additional notes or references:
Abbreviation: N/Av: not available N/Av: not applicable TLV: Threshold Limit Values
PEL: Permissible Exposure Limit
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
CAS: Chemical Abstract Services
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
Reference: 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2002.
2. International Agency for Research on Cancer Monographs, Supplement 7, 1988.
3. Canadian Centre for Occupational Health and Safety, CChemoWeb databases, 2003 (Chempendium and RTECs).
4. Material Safety Data Sheet from manufacturer.

SECTION IX - PREPARATION INFORMATION

Prepared by: UTILICOR TECHNOLOGIES INC.
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