

# PRODUCT BROCHURE

PROCESS LUBRICANTS

DRY FILM LUBRICANTS

DIE & MOULD COATINGS

SPECIALITY COATINGS

**OXEECO TECHNOLOGIES PRIVATE LIMITED**

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Oxeeco Technologies Pvt. Limited (formerly Industrial Graphites) was established in 1970 to manufacture high purity Natural Graphite Powders and Flakes. Over 60 different grades are manufactured today ranging in purity upto 99.9% and particle size less than 3 microns.

Oxeeco Technologies Pvt. Limited manufactures a range of Speciality Lubricants for various metal processing applications, maintenance lubricants, anti-seize compounds, speciality coatings and paints.

Our lubricants and products are prepared from high purity graphite powder, which impart unique lubricating characteristics. Graphite is a solid, soft, dry, high temperature resistant lubricant. It has low co-efficient of friction as well as low co-efficient of expansion. It is a good conductor of heat and electricity. Unlike many other lubricants graphite being a solid withstands extreme pressure without being forced out of load bearing surfaces. Graphite lubricants provide excellent lubrication in critical chemical environments of Halogens, Amines and Alkalis. It is compatible with most metals and non-metals and therefore finds uses in impregnation of porous articles made out of fabrics, ceramics, paper packing materials and sintered bearings.

Our mission during all these years has been to exploit the unique properties of graphite and develop products for a diverse range of applications. Many of these products have been fine-tuned over a period of time by close interaction with end users. We are also in a position to supply custom designed products to meet individual requirements.

# PRODUCT SELECTION GUIDE

## PROCESS LUBRICANTS

S.NO.	APPLICATION	GRADE
<b>FORGING</b>		
1.	Cold Forging of Aluminium and Alloys	L – Z 12
2.	Cold Forging of Steel and Alloys	L-Z 29
3.	Hot Forging of Aluminium and Alloys	L-X15
4.	Hot Forging of Copper, Brass and Zinc	L-X 21, L-X 29, L-X 34
5.	Hot Forging of Steel and Alloys	L-Z 52, L-Z 12, L-Z12A, L-Z 18, L-Z 27, L-Z 31, L-Z 63, L-Z 51, L-X 18, L-X 21, L-X 22, L-X 108, L-X 504
6.	Warm Forging/Extrusion of Steel and Alloys	L-Z 51, L-Z 54, L-Z 57, L-Z 513
7.	Upsetting of Pipes	L-Z 12(B)
<b>EXTRUSION</b>		
8.	Hot Extrusion of Steel and Alloys	L-X 21, L-Z 52, L-Z 12, L-Z 31
9.	Extrusion of Aluminum Profiles, Rod, Tubes	L-X 15, L-X 27, L-X 30, L-X 54
10.	Extrusion of Brass Profiles, Rod and Tubes	L-X 29
11.	Extrusion of Copper Profiles, Rod and Tubes	L-X 29
12.	Extrusion of Seamless Steel Tube	L-Z 21, FLAKES
<b>DRAWING</b>		
13.	Aluminium Log Drawing	L- X 30
14.	Wire Drawing Aluminium (For ACSR Wires & AAAC)	L-X 81(A)
15.	Wire Drawing of Tungsten and Molybdenum (Fine Wire)	L-Z 37, L-Z37 (20%)
16.	Wire Drawing of Tungsten and Molybdenum (Coarse Wire)	L-Z 36

<b>S.NO.</b>	<b>APPLICATION</b>	<b>GRADE</b>
<b>CASTINGS</b>		
17.	Cold Chamber High Pressure Die Casting of Aluminium and Alloys (Die Lubrication)	
18.	Cold Chamber High Pressure Die Casting of Aluminium and Alloys (Plunger Lubrication)	L-X 27, U-Z 18
19.	Continuous Sheet Casting of Aluminium and Alloys	L - Z 54
20.	Gravity Die Casting And Billet Casting of Copper, Aluminium, Brass and Alloys	L – Z 34
21.	Sand Casting of Cast Iron, Steel and Alloys	U-Z 47, G.P, U-Z 41, L-S29
<b>GLASS MOULD</b>		
22.	Cold Mould (Permanent Coating)	
23.	Hot Mould Coating For Blanks	L-X 9
24.	Scoop Lubricant	L-S 9
<b>DRY FILM LUBRICATION</b>		
25.	For Zirconium Tubes	L- S 126
26.	For Rollers in dusty atmospheres	L – S 127
27.	Slip Plate	
<b>CHAIN LUBRICATION</b>		
28.	High Temperature Chain Lubricant	L – X 57
30.	Fire Resistant Chain Lubricant	L – X 59

## DRY FILM LUBRICANTS

<b>S.NO.</b>	<b>APPLICATION</b>	<b>GRADE</b>
1.	Piston Coatings	L – S 6 (A), L-S 6(B)
2.	Scoop Lubricant	L – S 9
3.	Non-flammable Bonding Compound	L – S 80
4.	For rollers in dusty atmospheres	L – S 127

## DIE & MOULD COATINGS

<b>S.NO.</b>	<b>APPLICATION</b>	<b>GRADE</b>
1.	For Aluminium Die Castings	U – Z 18
2.	Mould Coating for CI/Steel Castings	U – Z 41
3.	For core coating of CI/Steel Castings	U – Z 47
4.	Foundry mould coatings	U – S 4
5.	Die coating for the release of Aluminium Castings	U – S 18
6.	Foundry mould coatings	U – S 29

## SPECIALITY COATINGS

<b>S.NO.</b>	<b>APPLICATION</b>	<b>GRADE</b>
1.	Coating on Asbestos Gasket	U – Z 9
2.	External Picture Tube Coating	U – Z 15
3.	Internal Picture Tube Coating	U – Z 21
4.	Coatings on Tantalum Capacitor	U – Z 23
5.	Coatings on Audio Liners	U – S 15
6.	Conductive coating on Stator Windings	U – S 15
7.	Anti Corrosive Coatings for Boilers.	U – S 24, U – S 21 L – S 27, U – S 41
8.	Propellant Coating Defence	G.P

# PRODUCT SPECIFICATIONS



# PROCESS LUBRICANTS

## 1. WATER BASE LUBRICANTS

PRODUCT	Specific Gravity (gms/cc)	Lubricant	Particle size Microns	Viscosity (CPS at 25 Deg.C)	Diluent	Application	Packing (Kgs)
LUBRICOTE-Z 12	1.15 – 1.20	GRAPHITE	10-15	CREAMY PASTE	WATER	HOT CLOSED DIE FORGING/UPSETTING.	200
LUBRICOTE-Z 12A	1.18 – 1.20	GRAPHITE	<10			<u>AREA OF APPLICATION:</u> FORGING DIES	
LUBRICOTE – Z 12 B	1.20 – 1.22	GRAPHITE	35-40	CREAMY PASTE	WATER	UPSETTING/ SEAMLESS TUBE EXTRUSION.	200
						<u>AREA OF APPLICATION:</u> BY CONTINUOUS SPRAY / BATH ON THE MANDREL	
LUBRICOTE-Z 15	1.04 – 1.06	GRAPHITE	10-15	CREAMY PASTE	WATER	FIBRE BEARING LUBRICATION.	25 200
LUBRICOTE – Z 21	1.20 – 1.25	GRAPHITE	35-40	CREAMY PASTE	WATER	SEAMLESS STEEL TUBE EXTRUSION ON PIERCING MILL AND ASSEL MILL.	200
						<u>AREA OF APPLICATION:</u> BY CONTINUOUS SPRAY/ BATH ON THE MANDREL	
LUBRICOTE – Z 27	1.20 – 1.24	GRAPHITE	8-10	CREAMY PASTE	WATER	HOT FORGING AND BILLET COATING IN WARM FORGING.	200
						<u>AREA OF APPLICATION:</u> FORGING DIES / BILLET COATING.	
LUBRICOTE – Z 29	1.15 – 1.20	GRAPHITE	3 - 5	PASTE	WATER	CLOSED DIE HOT FORGINGS OF INTRICATE AND HIGH QUALITY PRECISION FORGINGS.	200
						<u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAY SYSTEM.	

PRODUCT	Specific Gravity (gms/cc)	Lubricant	Particle size Microns	Viscosity (cps at 25 Deg.C)	Diluent	Application	Packing (kgs)
LUBRICOTE – Z 31	1.04 – 1.10	GRAPHITE	15 – 20	PASTE	WATER	GENERAL FORGING LUBRICANT FOR STEEL & ALLOYS <u>AREA OF APPLICATION:</u> ON DIES	200
LUBRICOTE – Z 36	1.20 – 1.25	GRAPHITE	3 - 5	PASTE	WATER	FILAMENT WIRE DRAWING OF TUNGESTEN AND MOLYBDENUM WIRES.(FOR COARSE WIRES ) <u>AREA OF APPLICATION:</u> ON THE WIRES.	25
LUBRICOTE – Z 37	1.20 – 1.25	GRAPHITE	0.1	PASTE	WATER	FILAMENT WIRE DRAWING OF TUNGSTEN AND MOLYBDENUM ( FOR FINE WIRES). <u>AREA OF APPLICATION:</u> ON WIRE	5 25
LUBRICOTE – Z 37 (20%)	1.15 – 1.20	GRAPHITE	1	PASTE	WATER	FILAMENT WIRE DRAWING OF TUNGSTEN AND MOLYBDENUM WIRES FOR FINE WIRES. LUBRICATION FOR DIAMOND DIES. <u>AREA OF APPLICATION:</u> ON THE WIRE.	5 25
LUBRICOTE – Z 42	1.00 – 1.04	GRAPHITE	10 – 15	PASTE	WATER	PRESSURE DIE CASTING FOR DIE LUBRICATION. <u>AREA OF APPLICATION:</u> MOVING AND STATIONARY DIES BY HAND SPRAY AUTOMATIC SPRAY SYSTEM.	25
LUBRICOTE – Z 44	1.00 – 1.02	GRAPHITE	10 – 15	PASTE	WATER	DUMMY BLOCK COATING IN EXTRUSION OF ALUMINIUM COPPER. <u>AREA OF APPLICATION:</u> DUMMY BLOCK BY SPRAYING OR DIPPING.	25 200
LUBRICOTE – Z 51	1.10 – 1.12	GRAPHITE	1	SEMI-LIQUID	WATER	HOT PRECISION FORGING. <u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAY SYSTEM	25 200

PRODUCT	Specific Gravity (gms/cc)	Lubricant	Particle size Microns	Viscosity (cps at 25 Deg.C)	Diluent	Application	Packing (Kgs)
LUBRICOTE – Z 52	1.28 – 1.30	GRAPHITE	1 – 3	PASTE	WATER	FOR HOT PRESS FORGING OF HEAVY, INTRICATE, HIGH QUALITY FORGINGS FOR SMOOTH SURFACE FINISH. <u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAYING SYSTEM	25 200
LUBRICOTE – Z 54	1.00 – 1.07	GRAPHITE	1 - 3	PASTE	WATER	FOR CONTINUOUS SHEET CASTINGS OF ALUMINIUM. <u>AREA OF APPLICATION:</u> ON THE UPPER AND LOWER CASTER ROLLS BY CONTINUOUS AUTOMATIC SPRAY SYSTEM.	25 200
LUBRICOTE – Z 57	1.14 – 1.17	GRAPHITE	1 – 2	SEMI-PASTE	WATER	HOT/WARM PRESS FORGING, EXTRUSION OF STEEL & ALLOYS. <u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAY SYSTEM.	25 200
LUBRICOTE – Z 63	1.16 – 1.19	GRAPHITE	1 – 2	SEMI-PASTE	WATER	FOR HOT PRESS FORGING OF HEAVY INTRICATE, HIGH QUALITY FORGINGS FOR SMOOTH SURFACE FINISH. <u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAY SYSTEM .	20 25 200
LUBRICOTE – Z 113	1.00 – 1.06	GRAPHITE	3 – 5	PASTE	WATER	COATING ON SINTERING TRAYS <u>METHOD/AREA OF APPLICATION:</u> DIP, TRAYS	25 200
LUBRICOTE – Z 221	1.20 – 1.25	GRAPHITE		PASTE	WATER	FOR SEAMLESS TUBE EXTRUSION ON PIERCING MILL AND ASSEL MILL (HOT MILL) <u>METHOD OF APPLICATION:</u> COATING MANDREL BY PASSING THROUGH THE SOLUTION	25 200
LUBRICOTE – Z 513	1.14 – 1.16	GRAPHITE	<10	SEMI-LIQUID	WATER	HOT PRECISION FORGING. <u>AREA OF APPLICATION:</u> ON DIES WITH PROPER SPRAY SYSTEM	20 200

## 2. OIL BASE LUBRICANTS

PRODUCT	LUBRICANT	Viscosity (CPs at 25 Deg.C)	Particle size Microns	Specif Gravity (gms/cc)	Diluent	Flash Point	Application	Packing (kgs)
LUBRICOTE – X 9	GRAPHITE	4000 – 6000	1 – 3	0.5 – 1.0	OIL	130-150	AS MOULD LUBRICATION GLASS BOTTLE MOLDS. METHOD OF APPLICATION : BY SWABBING.	25/30
LUBRICOTE– X 12	GRAPHITE	800 – 900	1 – 3	1.00	OIL	240– 260	- DO -	25/30
LUBRICOTE-X 15	GRAPHITE	1500 – 2000	35 – 40	1.1	OIL	150– 200	FOR PUNCH AND DIE IN ALUMINIUM FORGINGS	25/30
LUBRICOTE-X 21	GRAPHITE	1200 – 1500	110-120	1.00- 1.05	OIL	120– 130	HAMMER FORGING LUBRICANT FOR PUNCH & DIE.	30 180
LUBRICOTE-X 21	GRAPHITE	300 – 400	35 – 40	0.97	OIL	120– 125	HAMMER FORGING LUBRICANT FOR PUNCH & DIE. <u>METHOD OF APPLICATION:</u> SWABBING	30 180
LUBRICOTE-X 22	GRAPHITE	400 – 500	35 – 40	0.98	OIL	115– 125	LUBRICATION OF DIES IN NOSING OPERATION.	30
LUBRICOTE-X 27	GRAPHITE	1000 – 1500	35 – 40	1.04	OIL	160– 170	PLUNGER LUBRICATION FOR COLD CHAMBERS HIGH PRESSURE DIE CASTING OF ALUMINIUM. <u>METHOD</u> <u>OFAPPLICATION</u> DRIP OR SWAB	30
LUBRICOTE-X 29	GRAPHITE	1300 – 1500		1.02- 1.06	OIL	200-250	LUBRICATION OF DIES , CONTAINER, DUMMY BLOCK, MANDREL IN FORWARD EXTRUSION OF BILLET CASTING OF COPPER BILLET. SWABBED ON PERMANENT MOULDS.	30

PRODUCT	LUBRICANT	Viscosity (CPS at 25 Deg.C)	Particle size Microns	Specific Gravity (gms/cc)	Diluent	Flash Point	Application	Packing (kgs)
LUBRICOTE-X 30	GRAPHITE	PASTE	30 – 35	1.1	MINERAL	250	FOR ALUMINIUM LOG DRAWING <u>METHOD OF</u> <u>APPLICATION</u> SWABBING.	50
LUBRICOTE-X 34	GRAPHITE	SEMI PASTE	35 – 49	0.98 – 1.05	OIL	100	LUBRICATION OF DIES IN NOSING OPERATION	30
LUBRICOTE-X 48	GRAPHITE	3000 – 4000	30 – 35	1.04	MINERAL	110 – 115	DIE LUBRICANT FOR THE EXTRUSION OF COPPER NICKEL SHAPES. TUBES, RODS & WIRES FOR EXCELLENT FINISH.	30
LUBRICOTE – X 54	GRAPHITE	1500 – 1800	30 – 35	1.05	MINERAL	220	PLUNGER LUBRICATION FOR COLD CHAMBERS HIGH PRESSURE DIE CASTING OF ALUMINUM. <u>METHOD OF</u> <u>APPLICATION</u> DIP OR SWAB	30
LUBRICOTE-X 57	GRAPHITE	300 – 400	35 – 40	0.95	Synthetic Oil	220- 250	HIGH TEMPERATURE CHAIN LUBRICANT	5 30
LUBRICOTE-X 59	GRAPHITE	400 – 500	15 – 20	1.10	OIL	220- 250	FIRE RESISTANT COMPOUND FOR OVEN CHAIN APPLIED WITHOUT COOLING	5 30
LUBRICOTE – X 63	GRAPHITE	SEMI- PASTE	35 – 40	1.10	MINERAL	220	PLUNGER LUBRICATION FOR COLD CHAMBERS HIGH PRESSURE DIE CASTING OF ALUMINUM. <u>METHOD OF</u> <u>APPLICATION</u> DIP OR SWAB	30

PRODUCT	LUBRICANT	Viscosity (CPS at 25 Deg.C)	Particle size Microns	Specific Gravity (gms/cc)	Diluent	Flash Point	Application	Packing (kgs)
LUBRICOTE-X 72	GRAPHITE	SEMI LIQUID	10	1.055 – 1.060	MINERAL	500 F	HOT FORGING LUBRICANT FOR STEEL ALLOYS <u>METHOD OF APPLICATION:</u> SWAB/DIPPING	20 30
LUBRICOTE-X 108	GRAPHITE	SEMI LIQUID	10	0.98-1.05	MINERAL	150	ERFB BOMB SHELL FORGING. <u>METHOD OF APPLICATION:</u> DIPPING	20 30
LUBRICOTE-X 126	GRAPHITE	SEMI PASTE	<35	0.94 – 0.98	MINERAL	180	HOT FORGING LUBRICANT FOR PUNCH & DIE. <u>METHOD OF APPLICATION</u> SWAB	20 30
LUBRICOTE-X 504	GRAPHITE	SEMI LIQUID	<6	0.90-0.97	MINERAL	>240	HOT FORGING LUBRICANT FOR STEEL MATERIAL. <u>METHOD OF APPLICATION</u> SWAB/SPRAY	20 30 35

## DRY FILM LUBRICANTS

PRODUCT	Specific Gravity (gms/cc)	Lubricant	Particle size Microns	Viscosity (cps at 25 Deg.C)	Diluent	Application	Packing (kgs)
LUBRICOTE – S 6(A)	1.05	GRAPHITE	3 – 5	650 – 700	-	DRY FILM COATING ON AUTOMOBILE PISTON FOR LUBRICATION MIXING A & B IN 2 : 1 RATIO.	25
LUBRICOTE – S 6(B)	0.92						
LUBRICOTE – S 9	1.15 0.95	GRAPHITE	3 - 5	850 – 900	UNICOTE	DRY FILM COATING ON SCOOPS / THROUGHES DEFLECTORS FOR LONG LIFE LUBRICATION	1
LUBRICOTE – S 80	1.15	GRAPHITE	3.5	550 – 700	RFU	NON- FLAMABLE BONDING COMPOUND FOR EXTRUSION OF COPPER TUBES AND RODS.	4
LUBRICOTE – S 127	0.95	GRAPHITE	1	100 – 150	ALCOHOL	DRY FILM LUBRICATION IN ZIRCONIUM TUBES FOR NUCLEAR REACTORS.	5

## DIE & MOULD COATINGS

PRODUCT	Specific Gravity (gms/cc)	Lubricant	Particle size Microns	Viscosity (cps at 25 Deg.C)	Diluent	Application	Packing (Kgs)
UNICOTE – Z 18	1.15 – 1.17	-	-	250 – 300	WATER	DIE COAT FOR ALUMINIUM DIE CASTING.	25
UNICOTE – Z 41	1.5 – 1.6	ZIRCON	50 - 60	PASTE	WATER	MOULD COATING FOR C.I./STEEL CASTING	25
UNICOTE – Z 47	1.4 – 1.5	GRAPHITE	50 – 60	PASTE	WATER	FOR CORE COATING OF C.I & STEEL CASTINGS	25
UNICOTE – S 4	0.96	GRAPHITE	60 – 70	100 – 150	ALCOHOL	FOUNDRY MOULD COATS	25 50
UNICOTE – S 18	0.82	-	-	1.3 – 1.5	RFU	DIE COATING FOR THE RELEASE OF ALUMINIUM CASTINGS	25
UNICOTE – S 29	1.5	ZIRCON	60 – 70	100 – 150	ALCOHOL	FOUNDRY MOULD COATS	25



## SPECIALITY COATINGS

PRODUCT	SPECIFIC GRAVITY (GMS/CC)	LUBRICANT	PARTICLE SIZE MICRONS	VISCOSITY (CPS AT 25 DEG.C)	DILUENT	APPLICATION	PACKING (KGS)
UNICOTE – Z 9	0.98 – 1.00	GRAPHITE	1 – 3	THIXO TROPIC GEL	WATER	AS COATING ON ASBESTOS GASKET USED FOR SEALING.	25
UNICOTE – Z 15	1.12 – 1.14	GRAPHITE	1	150-170	RFU	CONDUCTIVE COATINGS ON INTERNAL CATHODE RAY TUBE FOR TELEVISION, COMPUTER MONITORS. <u>METHOD OF APPLICATION:</u> SPRAY	20
UNICOTE – Z 21	1.1 – 1.2	GRAPHITE	3 - 5	400 – 450	RFU	CONDUCTIVE COATING FOR EXTERNAL CATHODE RAY TUBE	25 200
UNICOTE – Z 23	1.10 – 1.05	GRAPHITE	1 - 3	PASTE	WATER	CONDUCTIVE COATING FOR TANTALUM CAPACITORS AND ZINC PLATES.	5
UNICOTE – S 15	0.86	GRAPHITE	1 – 3	200 – 300	XYLENE/ TOLUENE	CONDUCTIVE COATING ON TAPES, PVC FILMS, POLYESTER PAPER, COPPER STRIPS, ZINC PLATES FOR OUTER CORONA GENERATOR STATOR WINDING	1 4
UNICOTE – S 21	1.10	GRAPHITE	3 – 5	600 – 650	THINNER	ANTI-CORROSIVE PROTECTIVE COATING FOR HOT, WET METAL SURFACES INSIDE BOILER DRUMS. HEAT EXCHANGERS ETC.	1 4
UNICOTE – S 24	1.05	-		650 – 700	THINNER	PROTECTIVE COATING FOR CHIMNEYS. BOILERS EXTERNAL SURFACES TO WITHSTAND FOR DRY HEAT – 250 DEG.C	4
LUBRICOTE – S 27	1.05	GRAPHITE	3- 5	600 – 650	THINNER	ANTICORROSIVE HIGH TEMPERATURE HIGH PRESSURE RESISTANT COATING FOR BOILER TO WITHSTAND DRY HEAT UPTO 500 DEG.C	4
UNICOTE – S 41	0.94	-		800 – 850	THINNER	GENERAL PURPOSE BLACK COATING	4