

Neiva, 15 de diciembre de 2022

CLIENTE: Ing. LUIS MIGUEL VELASCO
PROYECTO:
SITIO: UNIVERSIDAD SURCOLOMBIANA

Ref. Remisión de resultados

Cordial saludo,

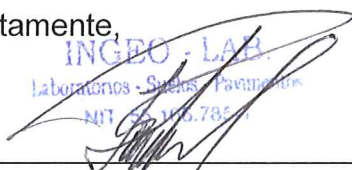
Por medio de la presente me permito remitir resultados obtenidos de las compresiones simples al concreto de los siguientes elementos EXTRAIDOS CON TOMA NUCLEOS DIMENCIONES DE 2", siendo estos fundidos en las instalaciones antes en mención.

Los resultados del trabajo en campo y de los ensayos de laboratorio que se presentan en este informe solo son aplicables a las muestras procesadas; el color hace referencia a resultados actuales, con el fin de observar claramente la evolución del concreto. Las muestras son tomadas por la empresa.

OBSERVACION:

Toma de cilindros: INGEOLAB S.A.S ☒ CLIENTE ☐

Atentamente,


INGEOLAB
Laboratorios - Suelos - Pavimentos
NIT 901.201.124-6

SANDRA MILENA ORTIZ PERDOMO

Ing. Civil Espec - Gerente

CC. 55.166.785 de Neiva

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RESISTENCIA A LA COMPRESIÓN UNIAxIAL DE ESPECÍMENES DE CONCRETO Y ROCA DE NÚCLEO EXTRAÍDO SERRADAS INTACTA

LABORATORIO CONTROL CALIDAD
INGEOLAB-015-NSR EDIFICIO DE
INGENIERIA

NORMA DE ENSAYO NTC 3658 – 2018

FECHA DEL REPORTE:	08/12/2022
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1

CLIENTE:	ESTUDIO DE VULNERABILIDAD Y DISEÑO DEL REFORZAMIENTO ESTRUCTURAL, REVISIÓN Y ANÁLISIS, PATOLOGÍAS.
SITIO :	MUNICIPIO DE NEIVA - UNIVERSIDAD SURCOLOMBIANA SEDE - NEIVA.
FECHA FUNDICION:	ESTRUCTURA EXISTENTE DEL 1986.

RESULTADOS ROTURAS DE EXTRACCION DE NUCLEOS - RESISTENCIA A LA COMPRESION

NÚMERO DE NÚCLEO	DÍAS	COD. CLIENTE Y NUMERO DE MUESTRAS	Díametro y Longitud (mm)		F.C	AREA		Peso (g)	(KN)	LECTURA	SLUM	Edad	Fecha de Rotura	Resistencia a Obtenida Mpa		% de Evolución	Peso U	Resistencia en (PSI) y en (Kg/cm2)	Observaciones y/o Ubicación
						MM2								M.P.A	P.S.I				
No.1	1	BLOQUE 1 ING-PISO 1 COLUMNA 1	44,00	90,00	1000	1520,53	321	73,90		16613	0"	1	07/12/2022	48,6	6943	231%	0,002	3000 210	TOMA NORMAL
No.2	1	BLOQUE 1 ING-PISO 1 VIGA 1	44,00	80,00	1000	1520,53	255	43,00		9667	0"	1	07/12/2022	28,3	4040	135%	0,002	3000 210	TOMA NORMAL
No.3	1	BLOQUE 1 ING-PISO 2 COLUMNA 2	44,00	90,00	1000	1520,53	311	23,30		5238	0"	1	07/12/2022	15,3	2189	73%	0,002	3000 210	TOMA NORMAL
No.4	1	BLOQUE 1 ING-PISO 3 COLUMNA 4	44,00	90,00	1000	1520,53	309	67,60		15197	0"	1	07/12/2022	44,5	6351	212%	0,002	3000 210	TOMA NORMAL
No.5	1	BLOQUE 1 ING-PISO 3 VIGA 2	45,00	80,00	1001	1520,53	320	32,70		7351	0"	1	07/12/2022	21,5	3075	103%	0,003	3000 210	TOMA NORMAL
No.6	1	BLOQUE 1 ING-PISO 1 COLUMNA 4	45,00	90,00	1000	1520,53	314	37,30		8385	0"	1	07/12/2022	24,5	3504	117%	0,002	3000 210	TOMA NORMAL
No.7	1	BLOQUE 1 ING-PISO 4 COLUMNA 3	44,00	90,00	1000	1520,53	292	17,20		3867	0"	1	07/12/2022	11,3	1616	54%	0,002	3000 210	TOMA NORMAL

OBSERVACIONES:

Los resultados de los ensayos de laboratorio que se presentan en este informe, solo son aplicables a las muestras procesadas. SEGUN LA NSR 10 DEBEMOS CUMPLIR CON LA MINIMA DE 2.550 P.S.I EQUIVALENTE AL 85% (44 mm DE DIAMETRO EQUIVALE A 1 3/4")

	Columnar
	Conte
	Conte y conte
	Conte y hendidura
	Conte

APROBADO POR:

CLIENTE

INGEOLAB SAS

ING. SANDRA MILENA ORTIZ PERDOMO
MP. 70202152275 del Tolima

		RESISTENCIA A LA COMPRESIÓN UNIAxIAL DE ESPECÍMENES DE CONCRETO Y ROCA DE NÚCLEO EXTRAÍDO SERRADAS INTACTA										LABORATORIO CONTROL CALIDAD INGEOLAB-015-NSR EDIFICIO INGENIERIA					
NORMA DE ENSAYO NTC 3658 – 2018												FECHA DEL REPORTE: 08/12/2022					
ESTUDIO DE VULNERABILIDAD Y DISEÑO DEL REFORZAMIENTO ESTRUCTURAL, REVISIÓN Y ANÁLISIS, PATOLOGÍAS. MUNICIPIO DE NEIVA - UNIVERSIDAD SURCOLOMBIANA SEDE - NEIVA.												PAG. 2					
FECHA FUNDICIÓN: ESTRUCTURA EXISTENTE DEL 1986.																	
RESULTADOS ROTURAS DE EXTRACCIÓN DE NÚCLEOS - RESISTENCIA ALA COMPRESION																	
NUMERO DE NUCLEO	DIAS	COD. CLIENTE Y NUMERO DE MUESTRAS	Diametro y Longitud (mm)	F.C	AREA	Peso (g)	(KN)	LECTURA	SLUM	Edad	Fecha de Rotura	Resistencia a Obtenida Mpa	P.S.I	% de Evolución	Peso U	Resistencia en (PSI) y en (Kg/cm2)	Observaciones y/o Ubicación
No.8	1	BLOQUE1 ING-PISO 4 VIGA3	44,00 90,00	1000	1520,53	250	13,30	2990	0"	1	07/12/2022	8,7	1250	42%	0,002	3000 210	TOMA NORMAL
OBSERVACIONES:														APROBADO POR:			
Los resultados de los ensayos de laboratorio que se presentan en este informe, solo son aplicables a las muestras procesadas.SEGUN LA NSR 10 DEBEMOS CUMPLIR CON LA MINIMA DE 2.550 P.S.I EQUIVALENTE AL 85%. (44 mm DE DIAMETRO EQUIVALE A 1 3/4.)														INGEOLAB S.A.S. Laboratorios - Sucesos - Tolima NIT. 55.182.000			
Las muestras son tomadas por:														INGEOLAB SAS			
CLIENTE														ING. SANDRA MUENA ORTIZ PERDOMO MP. 70202192275 del Tolima			
														X			

RESISTENCIA A LA COMPRESIÓN UNIAxIAL DE ESPÉCIMENES DE CONCRETO Y ROCA DE NÚCLEO EXTRAÍDO SERRADAS INTACTA

LABORATORIO CONTROL CALIDAD INGEOLAB-015-NSR EDIFICIO EDUCACION

NORMA DE ENSAYO NTC 3658 – 2018

FECHA DEL REPORTE: 08/12/2022

PAG. 1

CLIENTE: ESTUDIO DE VULNERABILIDAD Y DISEÑO DEL REFORZAMIENTO ESTRUCTURAL, REVISIÓN Y ANÁLISIS, PATOLOGÍAS.

SITIO: MUNICIPIO DE NEIVA - UNIVERSIDAD SURCOLOMBIANA - SEDE NEIVA.

FECHA FUNDICIÓN: ESTRUCTURA EXISTENTE DEL 1970/75.

RESULTADOS ROTURAS DE EXTRACCIÓN DE NÚCLEOS - RESISTENCIA A LA COMPRESIÓN

NÚMERO DE NÚCLEO	DÍAS	COD. CLIENTE Y NÚMERO DE MUESTRAS	Dímetro y Longitud (mm)	F.C	ÁREA MM2	Peso (g)	(KN)	LECTURA	SLUM	Edad	Fecha de Rotura	Resistencia Obtenida Mpa		Peso U	Resistencia en (PSI) y en (Kg/cm2)	Observaciones y/o Ubicación
												M.P.A	P.S.I			
No.9	1	BLOQUE 16 EDUCACION - PISO 1 COLUMNA 1	44,00 80,00	1000	1520,53	329	23,70	5328	0"	1	07/12/2022	15,6	2227	0,003	3000 210	TOMA NORMAL
No.10	1	BLOQUE 17 EDUCACION - PISO 1 VIGA 1	44,00 80,00	1000	1520,53	287	38,30	8610	0"	1	07/12/2022	25,2	3598	0,002	3000 210	TOMA NORMAL
No.11	1	BLOQUE 17 EDUCACION - PISO 2 COLUMNA 2	44,00 90,00	1000	1520,53	236	49,30	11083	0"	1	07/12/2022	32,4	4632	0,002	3000 210	TOMA NORMAL
No.12	1	BLOQUE 14 EDUCACION - PISO 3 VIGA 2	44,00 90,00	1000	1520,53	288	38,50	8655	0"	1	07/12/2022	25,3	3617	0,002	3000 210	TOMA NORMAL
No.13	1	BLOQUE 14 EDUCACION - PISO 3 COLUMNA 3	45,00 90,00	1001	1520,53	302	28,30	6362	0"	1	07/12/2022	18,6	2662	0,002	3000 210	TOMA NORMAL
No.14	1	BLOQUE 14 EDUCACION - PISO 4 VIGA 3	45,00 90,00	1000	1520,53	297	31,00	6969	0"	1	07/12/2022	20,4	2913	0,002	3000 210	TOMA NORMAL
No.15	1	BLOQUE 14 EDUCACION - PISO 4 COLUMNA 4	44,00 80,00	1000	1520,53	261	22,20	4991	0"	1	07/12/2022	14,6	2086	0,002	3000 210	TOMA NORMAL

OBSERVACIONES:
Los resultados de los ensayos de laboratorio que se presentan en este informe, solo son aplicables a las muestras procesadas. SEGUN LA NSR 10 DEBEMOS CUMPLIR CON LA MINIMA DE 2.550 P.S.I EQUIVALENTE AL 85%. (44 mm DE DIAMETRO EQUIVALE A 1 3/4.)

APROBADO POR:
INGEOLAB
Laboratorio de Estudios y Análisis

CLIENTE

INGEOLAB SAS

ING. SANDRA MILENA ORTIZ PERDOMO
MP. 703621522/75 del Tolima

		RESISTENCIA A LA COMPRESIÓN UNIAxIAL DE ESPÉCIMENES DE CONCRETO Y ROCA DE NÚCLEO EXTRAÍDO SERRADAS INTACTA										LABORATORIO CONTROL CALIDAD INGEOLAB-015-NSR EDIFICACION BIENESTAR					
NORMA DE ENSAYO NTC 3658 – 2018																	
ESTUDIO DE VULNERABILIDAD Y DISEÑO DEL REFORZAMIENTO ESTRUCTURAL, REVISIÓN Y ANÁLISIS, PATOLOGÍAS. MUNICIPIO DE NEIVA - UNIVERSIDAD SURCOLOMBIANA - SEDE HUILA.																	
FECHA FUNDICIÓN: ESTRUCTURA EXISTENTE DEL 1970/75.																	
RESULTADOS ROTURAS DE EXTRACCIÓN DE NÚCLEOS - RESISTENCIA ALA COMPRESION																	
NUMERO DE NUCLEO	DIAS	COD. CLIENTE Y NUMERO DE MUESTRAS	Diametro y Longitud (mm)	F.C	AREA	Peso (g)	(KN)	LECTURA	SLUM	Edad	Fecha de Rotura	Resistencia a Obtener Mpa	P.S.I	% de Evolución	Peso U	Resistencia en (PSI) y en (Kg/cm2)	Observaciones y/o Ubicación
No.16	1	EDUCACION BB PISO 2 VIGAS 2	44,00 90,00	1000	1520,53	311	28,00	6295	0"	1	07/12/2022	18,4	2631	88%	0,002	3000 210	TOMA NORMAL
OBSERVACIONES:																	
Los resultados de los ensayos de laboratorio que se presentan en este informe, solo son aplicables a las muestras procesadas SEGUN LA NSR 10 DEBEMOS CUMPLIR CON LA MINIMA DE 2.550 P.S.I EQUIVALENTE AL 85%. (44 mm DE DIAMETRO EQUIVALE A 1 3/4.)																	
Las muestras son tomadas por:																	
CLIENTE																	
INGEOLAB SAS																	
X																	
ING. SANDRA MILENA ORTIZ PERDOMO MP. 70202752275 del Tolima																	
APROBADO POR:																	
INGEOLAB S.A.S. Laboratorio - Sucesos																	



RESISTENCIA A LA COMPRESIÓN UNIAxIAL DE ESPECÍMENES DE CONCRETO Y ROCA DE NÚCLEO EXTRAÍDO SERRADAS INTACTA

LABORATORIO CONTROL
CALIDAD INGEOLAB-015-NSR
EDIFICIO DE BIENESTAR

NORMA DE ENSAYO NTC 3658 – 2018

DEL REPORTE:	08/12/2022
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CLIENTE:	ESTUDIO DE VULNERABILIDAD Y DISEÑO DEL REFORZAMIENTO ESTRUCTURAL, REVISION Y ANALISIS, PATOLOGIAS.
SITIO:	MUNICIPIO DE NEIVA - UNIVERSIDAD SURCOLOMBIANA SEDE - NEIVA.
FECHA FUNDICION:	ESTRUCTURA EXISTENTE DEL 1970 /75.

RESULTADOS ROTURAS DE EXTRACCION DE NUCLEOS - RESISTENCIA A LA COMPRESION

NÚMERO DE NÚCLEO	COD. CLIENTE Y NÚMERO DE MUESTRAS	Díametro y Longitud (mm)	F.C	AREA		Peso (g)	(KN)	LECTURA	SLUM	Edad	Fecha de Retura	Resistenci a Obtenida Mpa		% de Evolución	Peso U	Resistencia en (PSI) y en (Kg/cm2)	Observaciones y/o Ubicación
				M.M2	M.P.A							P.S.I					
No.17	1	BLOQUE (B) BIENESTAR - PISO 4 VIGA 3	1000	1520,53	329	26,80	6025	0"	1	07/12/2022	17,6	2518	84%	0,002	3000	210	TOMA NORMAL
No.18	1	BLOQUE (B) BIENESTAR-PISO 4 COLUMNA 4	1000	1520,53	335	43,20	9712	0"	1	07/12/2022	28,4	4059	135%	0,002	3000	210	TOMA NORMAL
No.19	1	BLOQUE (B) BIENESTAR-PISO 3 VIGA 2	1000	1520,53	308	43,60	9802	0"	1	07/12/2022	28,7	4096	137%	0,002	3000	210	TOMA NORMAL
No.20	1	BLOQUE (B) BIENESTAR-B3 COLUMNA 3	1000	1520,53	323	23,70	5328	0"	1	07/12/2022	15,6	2227	74%	0,002	3000	210	TOMA NORMAL
No.21	1	BLOQUE (G) BIENESTAR-PISO 1 VIGA 5	1001	1520,53	321	24,10	5418	0"	1	07/12/2022	15,9	2267	76%	0,003	3000	210	TOMA NORMAL
No.22	1	BLOQUE (B) BIENESTAR - PISO 1 COLUMNA 1	1000	1520,53	245	24,50	5508	0"	1	07/12/2022	16,1	2302	77%	0,002	3000	210	TOMA NORMAL
No.23	1	VIGA (1) BIENESTAR.	1000	1520,53	316	53,80	12095	0"	1	07/12/2022	35,4	5055	168%	0,002	3000	210	TOMA NORMAL

OBSERVACIONES:

Los resultados de los ensayos de laboratorio que se presentan en este informe, solo son aplicables a las muestras procesadas. SEGUN LA NSR 10 DEBEMOS CUMPLIR CON LA MINIMA DE 2.550 P.S.I EQUIVALENTE AL 85%. (44 mm DE DIAMETRO EQUIVALE A 1 3/4")

APROBADO POR:

Las muestras son tomadas por:

CLIENTE

INGEOLAB SAS

SANDRA MILENA ORTIZ PERDOMO
MP. 70202152275 del Tolima

**CUADROS DE FALLA DE CILINDROS A LA
COMPRESION AXIAL DE ESPECIMENES DE
CONCRETO Y ROCA DE NUCLEO EXTRAIDOS
NORMA DE ENSAYO ASTM C-1604, METODO C.**



(Anexo: Soporte fotográfico)
REGISTRO FOTOGRAFICO:

Estudios de Suelos - Control de Calidad Obras Civiles
Perforaciones Superficiales, Profundas - Patología del Concreto
Vulnerabilidad Sísmica - Diseño de Estructuras - Construcción
Supervisión Técnica - Consultoría - Interventoría - Gerencia de Proyectos

NIT: 901.201.124-6

CILINDRO No. 1

ZONA: BLOQUE DE INGIENERIA

SITIO: B1 P1 C1

Diámetro: 2" x 9 cm peso: 0.321

fuerza: 730.9



Imagen 1. Registro fotográfico #1



Imagen 2. Registro fotográfico #2

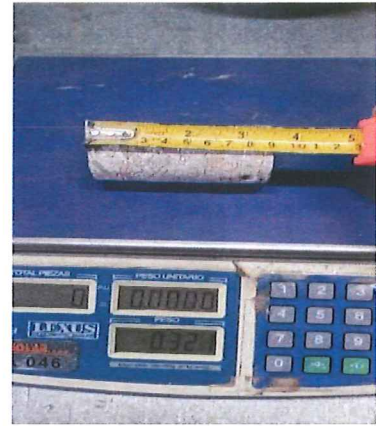


Imagen 3. Registro fotográfico #3



Imagen 4. Registro fotográfico #4



Imagen 5. Registro fotográfico #5

INGEO - LAB.
Laboratorios - Suelos - Pavimentos
NIT. 55.166.785-

Avenida la toma 1 E No. 14 - 49 Neiva



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Email: ing-mile@hotmail.com

CILINDRO No. 2

ZONA: BLOQUE INGIENERIA

SITIO: B1 P1 V1

Diámetro: 2" x 9 cm peso: 0.255 fuerza: 43.0

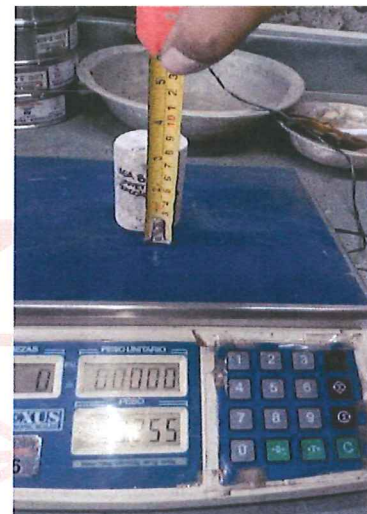


Imagen 6. Registro fotográfico #1 Imagen 7. Registro fotográfico #2 Imagen 8. Registro fotográfico #3



Imagen 9. Registro fotográfico #4

Imagen 10. Registro fotográfico #5

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NIT 55.166.785-1

CILINDRO No. 3		
ZONA: BLOQUE INGIENERIA		
SITIO: B1 P2 C2		
Diámetro: 2" x 9 cm	peso: 0.311	fuerza: 23.3

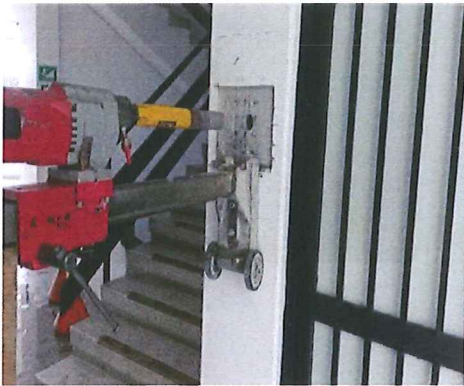


Imagen 11. Registro fotográfico #1

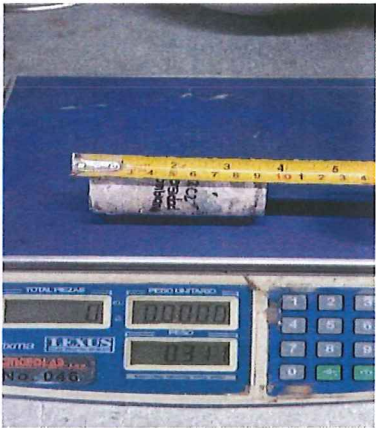


Imagen 12. Registro fotográfico #2



Imagen 13. Registro fotográfico #3

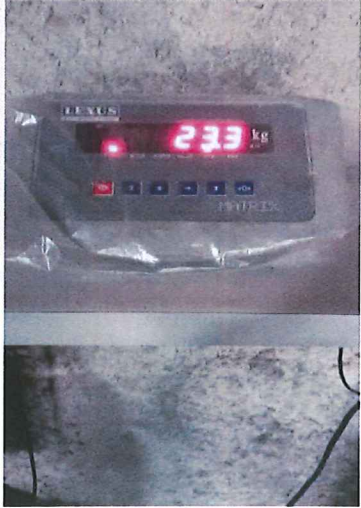


Imagen 14. Registro fotográfico #4

CILINDRO No. 4		
ZONA: BLOQUE INGIENERIA		
SITIO: B1 P3 C4		
Diámetro: 2" x 9 cm	peso: 0.309	fuerza: 67.6



Imagen 15. Registro fotográfico #1

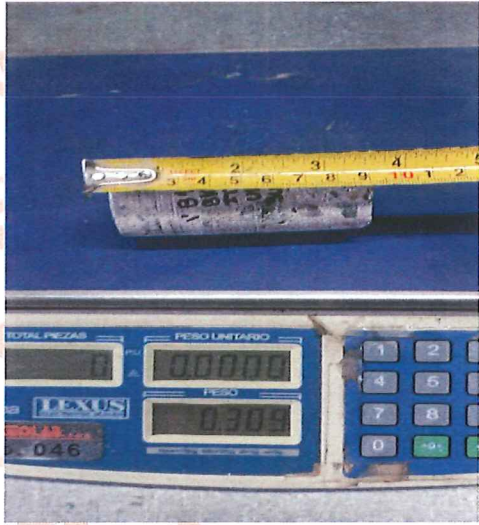


Imagen 16. Registro fotográfico #2

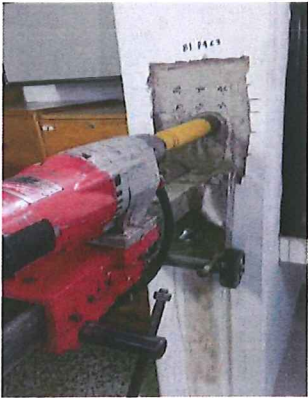
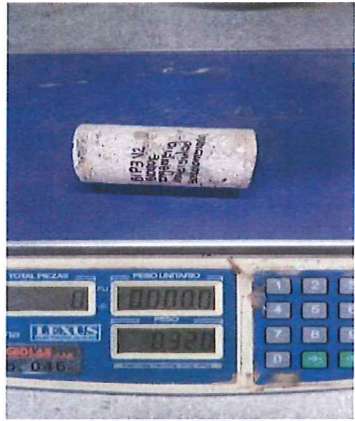
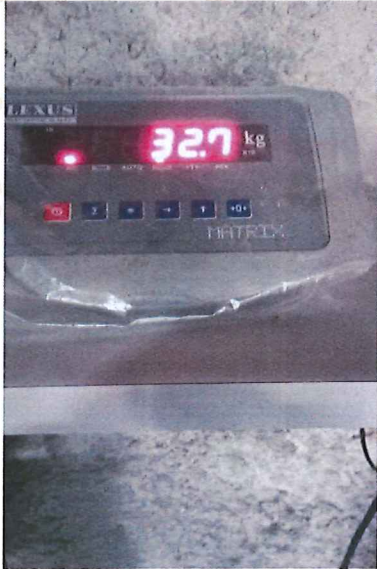


Imagen 17. Registro fotográfico #3



Imagen 18. Registro fotográfico #4

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Laboratorios - Suelos - Pavimentos
NIT. 55.166.785-1

CILINDRO No. 5			
ZONA: BLOQUE INGIENERIA			
SITIO: B1 P3 V2			
Diámetro: 2" x 9 cm	peso: 0.320	fuerza: 32.7	
			
<i>Imagen 19. Registro fotográfico #1</i>	<i>Imagen 20. Registro fotográfico #2</i>	<i>Imagen 21. Registro fotográfico #3</i>	
			
<i>Imagen 22. Registro fotográfico #4</i>	<i>Imagen 23. Registro fotográfico #5</i>		

CILINDRO No. 6	
ZONA: BLOQUE INGIENERIA	
SITIO: B1 P1 V4	
Diámetro: 2" x 9 cm	peso: 0.314 fuerza: 37.3



Imagen 24. Registro fotográfico # 1

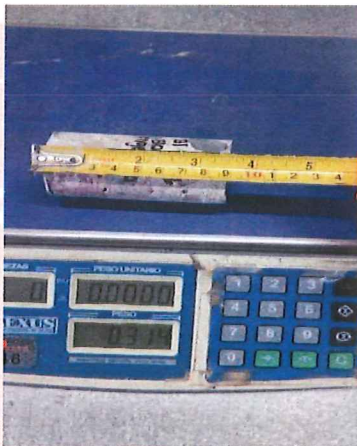


Imagen 25. Registro fotográfico # 2



Imagen 26. Registro fotográfico # 3



Imagen 27. Registro fotográfico # 4

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CILINDRO No. 7

ZONA: BLOQUE INGIENERIA

SITIO: B1 P4 C3

Diámetro: 2" x 9 cm peso: 0.292

fuerza: 17.2



Imagen 28. Registro fotográfico #1



Imagen 29. Registro fotográfico #2



Imagen 30. Registro fotográfico #3



Imagen 31. Registro fotográfico #4



Imagen 32. Registro fotográfico #5

INGEOLAB.
Laboratorios - Suelos - Pavimentos
NIT 55.166.785-1

CILINDRO No. 8			
ZONA: BLOQUE INGIENERIA			
SITIO: B1 P4 V3			
Diámetro: 2" x 9 cm		peso: 0.250	fuerza: 12.3

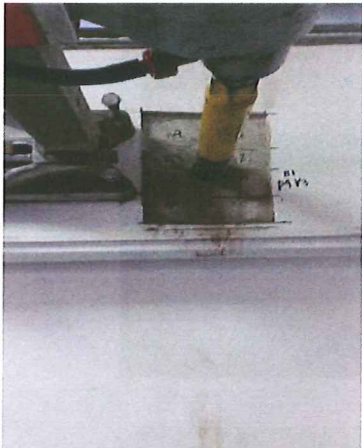


Imagen 33. Registro fotográfico #1

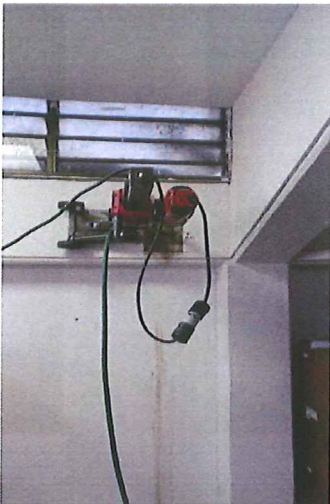


Imagen 34. Registro fotográfico #2

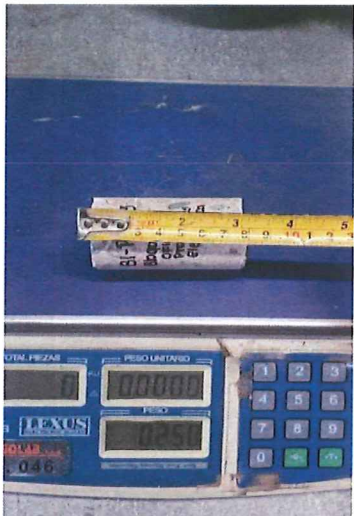


Imagen 35. Registro fotográfico #3



Imagen 36. Registro fotográfico #4



Imagen 37. Registro fotográfico #5

INGEO - LAB.
Laboratorios - Suelos - Pavimentos
NIT: 901.201.124-6

CILINDRO No. 9	
ZONA: BLOQUE INGIENERIA	
SITIO: B16 P1 C1	
Diámetro: 2" x 9 cm	peso: 0.329 fuerza: 23.7

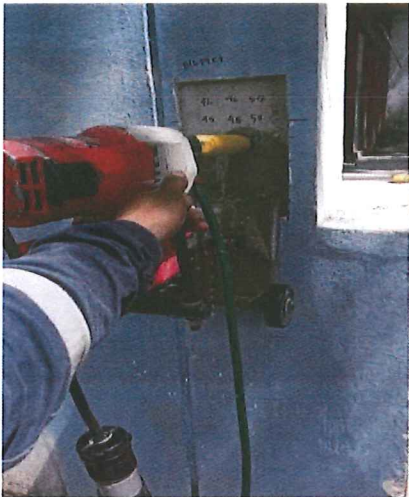


Imagen 38. Registro fotográfico #1



Imagen 39. Registro fotográfico #2



Imagen 40. Registro fotográfico #3



Imagen 41. Registro fotográfico #4

CILINDRO No. 10	
ZONA: BLOQUE EDUCACION	
SITIO: B17 P1 V1	
Diámetro: 2" x 9 cm	peso: 0.285 fuerza: 38.3
Imagen 42. Registro fotográfico #1 Imagen 43. Registro fotográfico #2 Imagen 44. Registro fotográfico #3 Imagen 45. Registro fotográfico #4	

CILINDRO No. 11

ZONA: BLOQUE EDUCACION

SITIO: B17 P2 C2

Diámetro: 2" x 9 cm peso: 0.236

fuerza: 49.3



Imagen 46. Registro fotográfico #1



Imagen 47. Registro fotográfico #2



Imagen 48. Registro fotográfico #3



Imagen 49. Registro fotográfico #4

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CILINDRO No. 12

ZONA: BLOQUE EDUCACION

SITIO: B14 P3 V2

Diámetro: 2" x 9 cm peso: 0.288

fuerza:38.5



Imagen 50. Registro fotográfico #1



Imagen 51. Registro fotográfico #2

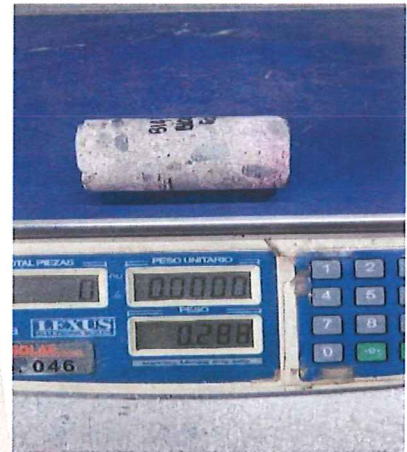


Imagen 52. Registro fotográfico #3



Imagen 53. Registro fotográfico #4



Imagen 54. Registro fotográfico #5

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CILINDRO No. 13		
ZONA: BLOQUE EDUCACION		
SITIO: B14 P3 C3		
Diámetro: 2" x 9cm	peso: 0,302	fuerza: 28.3





Imagen 55. Registro fotográfico #1

Imagen 56. Registro fotográfico #2

Imagen 57. Registro fotográfico #3

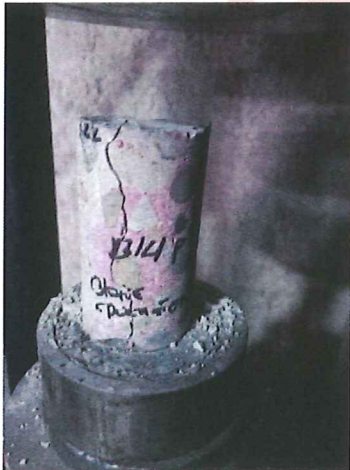



Imagen 58. Registro fotográfico #3

Imagen 59. Registro fotográfico #4

CILINDRO No. 14		
ZONA: BLOQUE EDUCACION		
SITIO: B14 P4 V3		
Diámetro: 2" x 9cm	peso: 0.297	fuerza: 31.0



Imagen 64. Registro fotográfico #1



Imagen 65. Registro fotográfico #2



Imagen 66. Registro fotográfico #3



Imagen 67. Registro fotográfico #4

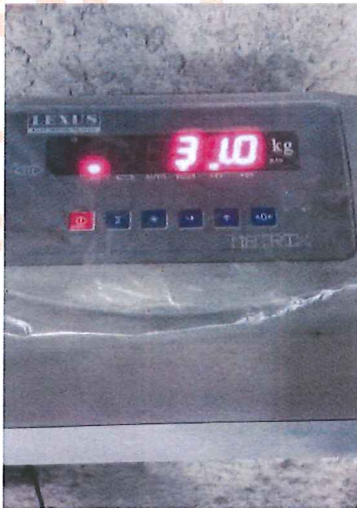


Imagen 68. Registro fotográfico #5

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NIT 55.166.725

CILINDRO No. 15		
ZONA: BLOQUE EDUCACION		
SITIO: B14 P4 C4		
Diámetro: 2" x 9cm	peso: 0.261	fuerza: 22.2

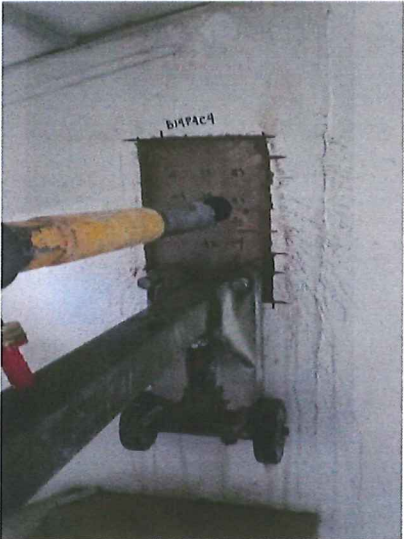


Imagen 60. Registro fotográfico #1

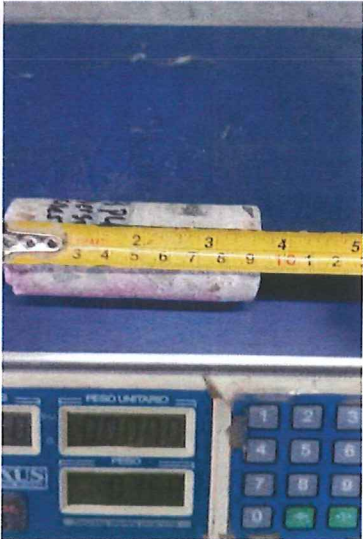


Imagen 61. Registro fotográfico #2

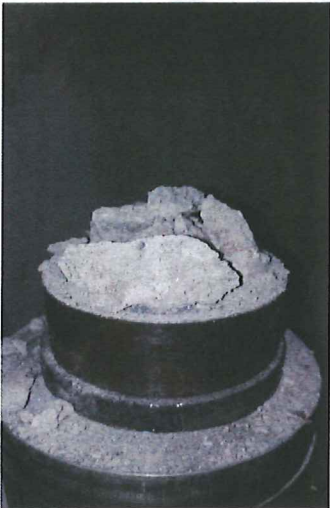


Imagen 62. Registro fotográfico #3



Imagen 63. Registro fotográfico #4

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NIT. 55.166.785-1

CILINDRO No. 16	
ZONA: AUDITORIO OLGA TONY	
SITIO: B13 P2 V2	
Diámetro: 2" x 9cm	peso: 0.311 fuerza: 28.0



Imagen 69. Registro fotográfico #1



Imagen 70. Registro fotográfico #2

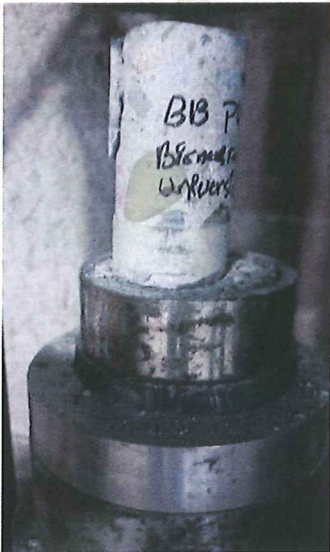


Imagen 71. Registro fotográfico #3



Imagen 72. Registro fotográfico #4

CILINDRO No. 17		
ZONA: BLOQUE BIENESTAR		
SITIO: B13 P4 V3		
Diámetro: 2" x 9cm	peso: 0.329	fuerza: 26.8

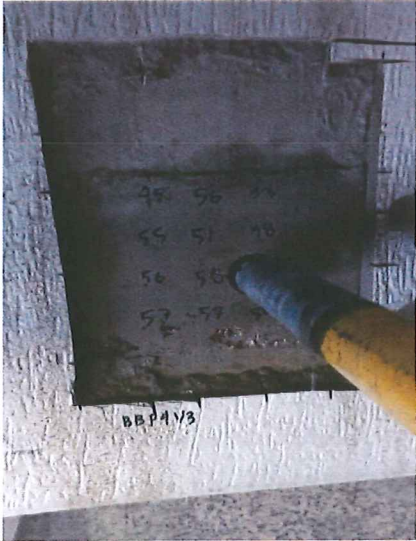


Imagen 73. Registro fotográfico #1



Imagen 74. Registro fotográfico #2



Imagen 75. Registro fotográfico #3



Imagen 76. Registro fotográfico #4

CILINDRO No. 18		
ZONA: BLOQUE BIENESTAR		
SITIO: B13 P4 C4		
Diámetro: 2" x 9cm	peso: 0.335	fuerza: 43.2



Imagen 77. Registro fotográfico #1



Imagen 78. Registro fotográfico #2

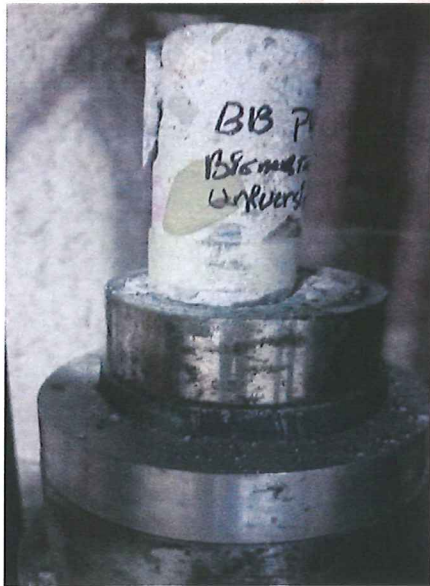


Imagen 79. Registro fotográfico #3



Imagen 80. Registro fotográfico #4

CILINDRO No. 19		
ZONA: BLOQUE BIENESTAR		
SITIO: B13 P3 V2		
Diámetro: 2" x 9cm	peso: 0.308	fuerza: 43.6



Imagen 81. Registro fotográfico #1

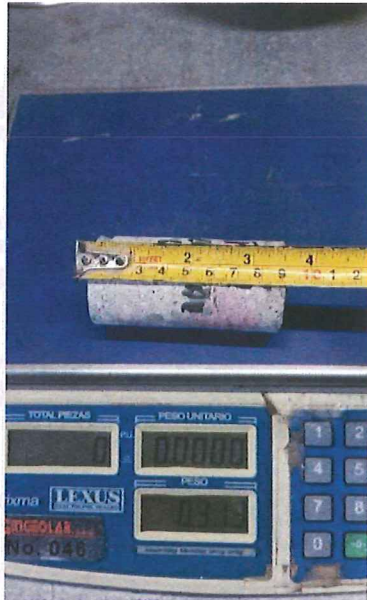


Imagen 82. Registro fotográfico #2

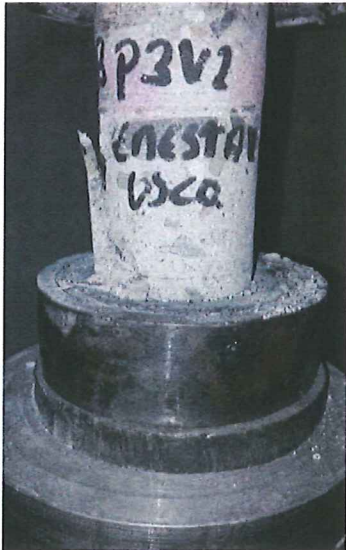


Imagen 83. Registro fotográfico #3



Imagen 84. Registro fotográfico #4

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CILINDRO No. 20	
ZONA: BLOQUE BIENESTAR	
SITIO: B13 P3 C3	
Diámetro: 2" x 9cm	peso: 0.323 fuerza: 23.7



Imagen 85. Registro fotográfico #1



Imagen 86. Registro fotográfico #2

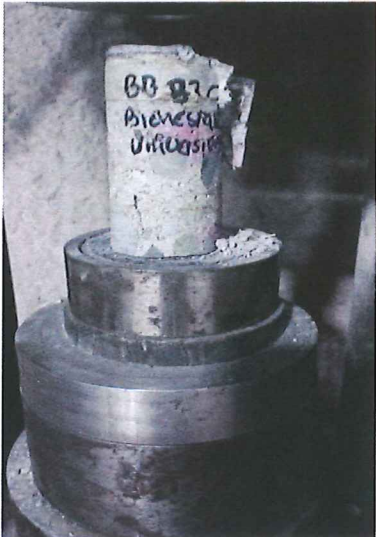


Imagen 87. Registro fotográfico #3

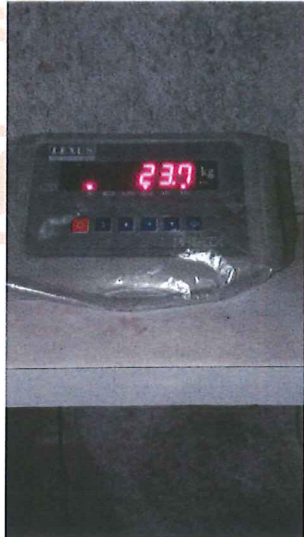


Imagen 88. Registro fotográfico #4

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CILINDRO No. 21		NIT: 901.201.124-6
ZONA: BLOQUE BIENESTAR		
SITIO: B9 P1 V5		
Diámetro: 2" x 9cm	peso: 0.321	fuerza: 24.1



Imagen 89. Registro fotográfico #1



Imagen 90. Registro fotográfico #2



Imagen 91. Registro fotográfico #3



Imagen 92. Registro fotográfico #4

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NIT. 55.166.785-1



CILINDRO No. 22

ZONA: BLOQUE BIENESTAR

SITIO: B13 P1 C1

Diámetro: 2" x 9cm peso: 0.245 fuerza: 24.5



Imagen 93. Registro fotográfico #1



Imagen 94. Registro fotográfico #2

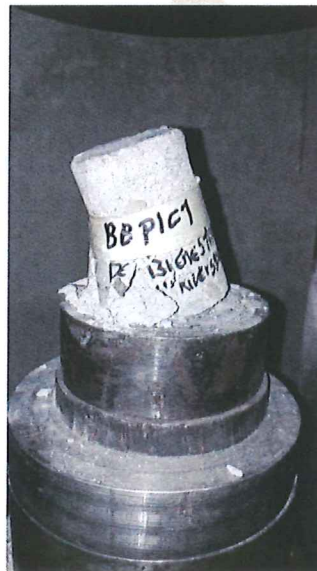


Imagen 95. Registro fotográfico #3



Imagen 96. Registro fotográfico #4

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CILINDRO No. 23	
ZONA: BLOQUE BIENESTAR	
SITIO: VIGA (1)	
Diámetro: 2" x 9cm peso: 0.316 fuerza: 53.8	
 <i>Imagen 97. Registro fotográfico #1</i>	 <i>Imagen 98. Registro fotográfico #2</i>
 <i>Imagen 99. Registro fotográfico #3</i>	 <i>Imagen 100. Registro fotográfico #4</i>

CILINDRO No. 24

ZONA: BLOQUE BIENESTAR

SITIO: VIGA (2)

Diámetro: 2" x 9cm peso: 0.319 fuerza: 23.4



Imagen 101. Registro fotográfico #1



Imagen 102. Registro fotográfico #2

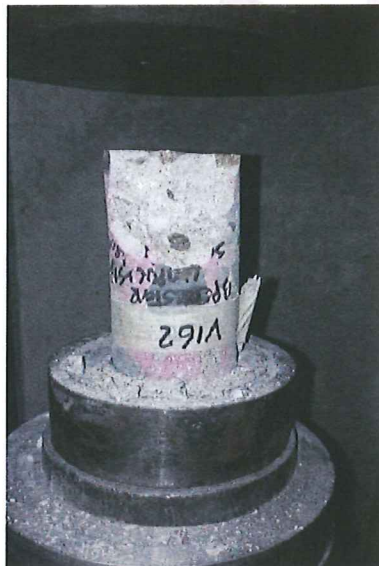


Imagen 103. Registro fotográfico #3



Imagen 104. Registro fotográfico #4

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NIT. 55.196.785-1



EQUIPO UTILIZADO EN OBRA: FICHA TECNICA



PRESENTACION:

Motor 4096 MILWAUKEE para perforación de concretos reforzados, son usados con brocas de coronas diamantadas.

MOTOR	
Marca:	MILWAUKEE
Modelo:	4096
Potencia:	20 Amps / 2400 Vatios
Velocidad:	BAJA 450 / ALTA 900 Rpm
Capacidad:	1 Velocidad - 6 10"
	2 Velocidad - 2-6"
Vástago:	1 1/4" -7
Tipo de Enchufe	L5-20P
Peso:	10.9 Kgs
BASE	
Marca:	MILWAUKEE
Modelo:	4115
Tamaño:	Pequeño
Aluminio	forjado
Columna	2 1/2"x 43,5" altura
Tornillo para fijar a techo	SI
Tornillos niveladores	4
Base:	18 x 36 Cms
Peso:	24,5 Kg
CAJA INTERRUPTOR DE 20 AMP	
Marca:	MILWAUKEE
Modelo:	48510120
Amperios a 120v	20,0A



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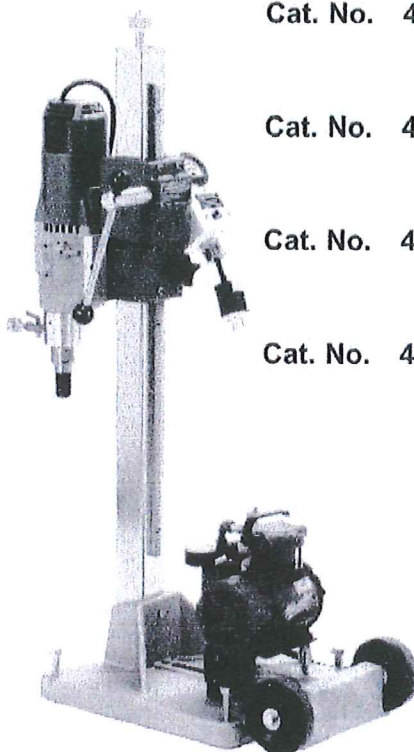
Email: ing-mile@hotmail.com



**OPERATOR'S MANUAL
MANUEL de L'UTILISATEUR
MANUAL del OPERADOR**

**DYMODRILLS
FOREUSES DYMODRILL
DYMODRILLS**

Cat. No.	4004	20A
Cat. No.	4005	20A
Cat. No.	4079	20A
Cat. No.	4090	15A
Cat. No.	4092-20	15A
Cat. No.	4094	20A
Cat. No.	4096	20A
Cat. No.	4097-20	15A



**DYMORIGS
OUTILLAGE DYMORIG
DYMORIGS**

Cat. No.	4115	Small base Petite base Base pequeña
Cat. No.	4125	Small base Petite base Base pequeña
Cat. No.	4120	Large base Grande base Base grande
Cat. No.	4130	Large base Grande base Base grande

**HEAVY-DUTY DIAMOND CORING EQUIPMENT
EXTRA ROBUSTE OUTILLAGE DE CAROTTAGE AU DIAMANT
EQUIPO DE PERFORACION CON PUNTAS DE DIAMANTE PARA TRABAJOS PESADOS**

TO REDUCE THE RISK OF INJURY, USER MUST READ AND UNDERSTAND OPERATOR'S MANUAL.
AFIN DE RÉDUIRE LE RISQUE DE BLESSURES, L'UTILISATEUR DOIT LIRE ET BIEN COMPRENDRE LE
MANUEL DE L'UTILISATEUR.
PARA REDUCIR EL RIESGO DE LESIONES, EL USUARIO DEBE LEER Y ENTENDER EL MANUAL DEL
OPERADOR.

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GENERAL SAFETY RULES — FOR ALL POWER TOOLS

124-6



WARNING!

READ ALL INSTRUCTIONS

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "power tool" in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

WORK AREA SAFETY

1. Keep work area clean and well lit. Cluttered or dark areas invite accidents.
2. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
3. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

4. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
5. Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
6. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
7. Do not abuse the cord. Never use the cord for carrying, pulling, or unplugging the power tool. Keep cord away from heat, oil, sharp edges, or moving parts. Damaged or entangled cords increase the risk of electric shock.
8. When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

PERSONAL SAFETY

9. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
10. Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
11. Avoid accidental starting. Ensure the switch is in the off-position before plugging in. Carrying tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
12. Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
13. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
14. Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery, or long hair can be caught in moving parts.
15. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust-related hazards.

page 2

POWER TOOL USE AND CARE

16. Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
17. Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
18. Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the tool accidentally.
19. Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tools or these instructions to operate power tools. Power tools are dangerous in the hands of untrained users.
20. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
21. Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
22. Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

SERVICE

23. Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.



SPECIFIC SAFETY RULES

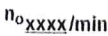
1. Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
2. Wear ear protectors with impact drills. Exposure to noise can cause hearing loss.
3. Use auxiliary handles supplied with the tool. Loss of control can cause personal injury.
4. Maintain tools carefully. Keep handles dry, clean and free from oil and grease. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Periodically inspect tool cords and extension cords for damage. Have damaged parts repaired or replaced by a MILWAUKEE service facility.
5. Maintain labels and nameplates. These carry important information. If unreadable or missing, contact a MILWAUKEE service facility for a free replacement.
6. **WARNING!** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - lead from lead-based paint
 - crystalline silica from bricks and cement and other masonry products, and
 - arsenic and chromium from chemically-treated lumber.Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.
7. Always use anchor bolts to secure the base on cracked, uneven, porous or vertical surfaces.
8. Diamond coring equipment requires the use of water. Since the use of electrical equipment in wet areas is hazardous, the equipment must be grounded (see "Grounding"). Wear insulated footwear and gloves for extra protection against shock hazards.
9. Provide proper protection for people and property below the coring area when coring through floors.
10. A meter box must always be used with Diamond Coring Equipment so that amperage can be monitored. See "Accessories".



Specifications

Catalog No.	Amps	Volts	Motor Protection	Speed (RPM)	Suggested Diameters in Medium Aggregate
4004	20	120	Clutch	Low - 300 High - 600	Low - 7" - 14" High - 4" - 7"
4005	20	120	Clutch	Low - 600 High - 1200	Low - 4" - 7" High - 3/4" - 4"
4079	20	120	Shear Pin	Low - 300 High - 600	Low - 7" - 14" High - 4" - 7"
4090	15	120	Shear Pin	Low - 375 High - 750	Low - 5" - 8" High - 2-1/2" - 5"
4092-20	15	120	Clutch	Low - 375 High - 750	Low - 5" - 8" High - 2-1/2" - 6"
4094	20	120	Shear Pin	Low - 450 High - 900	Low - 6" - 10" High - 2" - 6"
4096	20	120	Clutch	Low - 450 High - 900	Low - 6" - 10" High - 2" - 6"
4097-20	15	120	Clutch	Low - 500 High - 1000	Low - 3" - 5" High - 1-1/4" - 3"

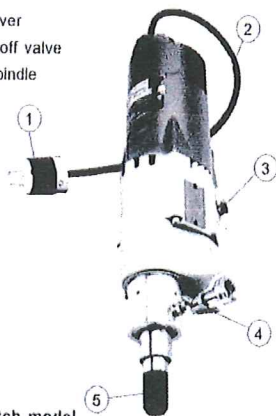
Symbology

	Underwriters Laboratories, Inc.
	Canadian Standards Association
	Volts Alternating Current
	No Load Revolutions per Minute (RPM)
	Amperes

.124-6

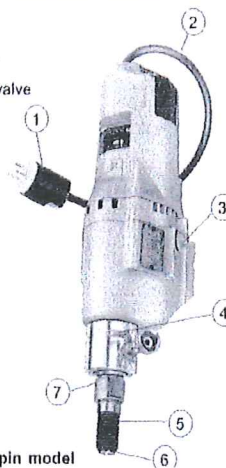
FUNCTIONAL DESCRIPTION

1. Twist-lock plug
2. Cord
3. Gear/shift lever
4. Water shut-off valve
5. Threaded spindle



Clutch model

1. Twist-lock plug
2. Cord
3. Gear shift lever
4. Water shut-off valve
5. Spindle sleeve
6. Retaining ring
7. Shear pin



Shear pin model



GROUNDING



WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the cord or plug is damaged. If damaged, have it repaired by a MILWAUKEE service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

MILWAUKEE Dymodrills are provided with a 20 amp locking plug (NEMA L5-20). MILWAUKEE meter boxes may be provided with either a 20 amp locking or a 30 amp (NEMA L5-30) locking plug depending on the model.

Grounded Tools:

Tools with Three Prong Plugs

Tools marked "Grounding Required" have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet (See Figures A and B). If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock.

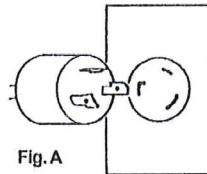


Fig. A

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal.

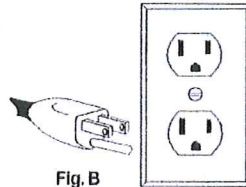


Fig. B

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in Figures A and B.

Double Insulated Tools:

Tools with Two Prong Plugs

Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association and the National Electrical Code. Double Insulated tools may be used in either of the 120 volt outlets shown in Figures C and D.

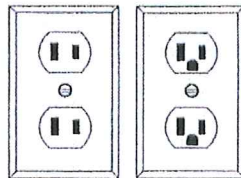


Fig. C

Fig. D



WARNING!

To reduce the risk of injury, always use a Ground Fault Circuit Interrupter (GFCI) with diamond coring equipment to reduce the risk of shock hazards. Always position the GFCI as close as possible to the power source.

EXTENSION CORDS

Grounded tools require a three wire extension cord. Double insulated tools can use either a two or three wire extension cord. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. Refer to the table shown to determine the required minimum wire size.

The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. When using more than one extension cord to make up the total length, be sure each cord contains at least the minimum wire size required. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum wire size.

Guidelines for Using Extension Cords

- If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.
- Be sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.
- Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

Recommended Minimum Wire Gauge for Extension Cords*

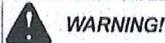
Nameplate Amperes	Extension Cord Length					
	25'	50'	75'	100'	150'	200'
0 - 5	16	16	16	14	12	12
5.1 - 8	16	16	14	12	10	--
8.1 - 12	14	14	12	10	--	--
12.1 - 15	12	12	10	10	--	--
15.1 - 20	10	10	10	--	--	--

* Based on limiting the line voltage drop to five volts at 150% of the rated amperes.

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE USE.



TOOL ASSEMBLY

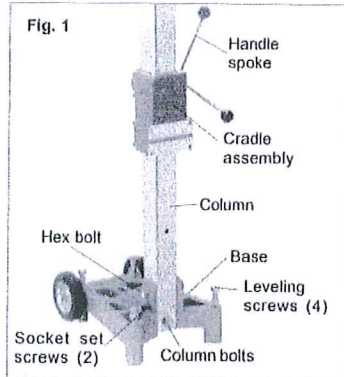


WARNING!

To reduce the risk of injury, always unplug tool before attaching or removing accessories or making adjustments. Use only specifically recommended accessories. Others may be hazardous.

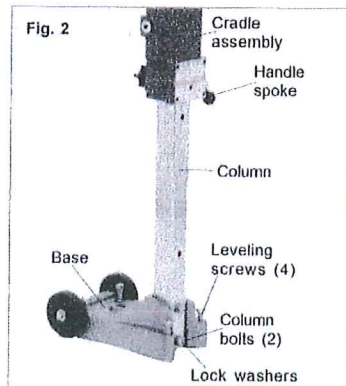
Assembling Dymorlgs & Vac-U-Rig® Stands

For Cat. No. 4125 & 4130 only (Fig. 1).



1. Set the base on the ground. Loosen the hex bolt and nut (wrench not supplied). Raise the column upright.
2. To core vertically or horizontally, insert the large column bolt (provided in separate accessory bag) through the bottom of column and into the base. Tighten hex bolt and nut (wrench not supplied).
To angle core, tilt the column to the desired angle and tighten the hex bolt and nut. Save the column bolt for future use when vertical or horizontal coring.
3. Tighten the two (2) black socket set screws located on the base with the supplied wrench.
4. Screw the four (4) handle spokes (provided in separate accessory bag) into the hub on the cradle assembly.

For Cat. No. 4115 & 4120 only (Fig. 2).

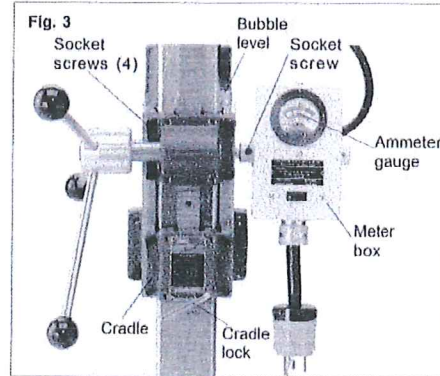


1. Set the base on the ground.
2. Remove two (2) bolts and two (2) lockwashers from accessory bag.
3. Place the column in the slot of the base.
4. Insert two (2) bolts and two (2) lockwashers and tighten securely.

page 6

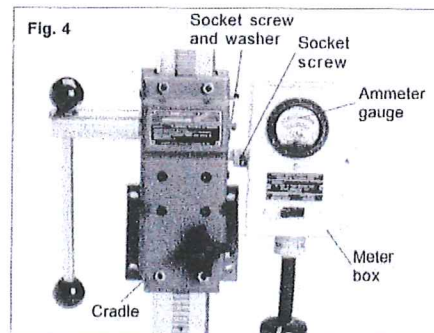
Moving the Handle to the Other Side

For Cat. Nos. 4125 & 4130 only (Fig. 3).



1. Tighten the cradle lock.
2. Loosen the socket head screw and remove the meter box.
3. Remove four (4) socket head screws holding the spoked handle housing.
4. Turn the assembly around 180°.
5. Replace the four (4) socket head screws and tighten securely.
6. Attach meter box to opposite side (see "Mounting the Meter Box").

For Cat. Nos. 4115 & 4120 only (Fig. 4).



1. Loosen the cradle lock.
2. Raise the cradle to the maximum height.
3. Lift the cradle an additional 1/2" by hand.
4. Tighten the cradle lock.
5. Loosen the socket head screw and remove the meter box.
6. Remove the meter box stud from the cradle.
7. Remove the screw and washer from the end of the pinion shaft.
8. Remove the handle and pinion shaft assembly.
9. Turn the assembly around 180° and insert into cradle.
10. Replace the screw and washer and tighten securely.
11. Replace the meter stud on the side opposite the handle.
12. Attach meter box to opposite side (see "Mounting the Meter Box").
13. Loosen the cradle lock and lower the cradle until the pinion engages the rack.
14. Tighten the cradle lock.



Mounting the Meter Box

For All Catalog Nos. (Fig. 3 & 4).

A meter box is standard equipment with the Vac-U-Rig®, but it must be purchased separately for other Dymorigs (see "Accessories"). Attach the meter box to the cradle on the side opposite of the handle.

1. Slip the collar on the meter box over the stud on the cradle.
2. Position the meter box as desired and tighten the 1/4"-20 threaded socket head screw.

NOTE: For horizontal (wall) coring, the ammeter gauge must face upward in view of the operator. Otherwise, water flow from the water shut-off valve might drip into the outlets on the meter box.

Mounting the Dymodrill Motor to the Stand

For All Cat. Nos. (Fig. 5 & 6).

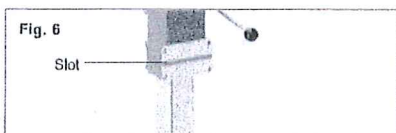
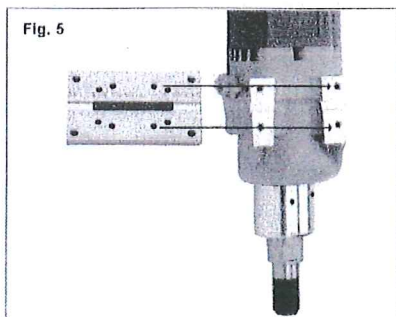
Dymorigs include a mounting bracket which mounts Dymodrill motors to the stand. An optional spacer assembly is available (see "Accessories"), which can be used when coring with any bits; but it must be used with any bit over 10" (outside diameter).

1. To mount the motor, loosen the cradle lock. Raise the cradle on the column using the spoked handle to allow room for installing the bit later. Tighten the cradle lock.

NOTE: If the cradle is difficult to move on the column, loosen the gib screws (see "Adjusting the Gib Screws").

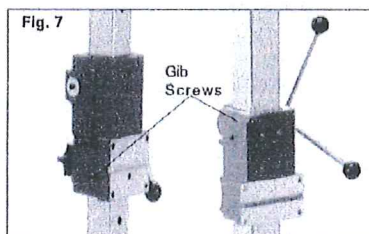
2. Fasten the mounting bracket or the optional spacer assembly to the Dymodrill (Fig. 5) motor using the four (4) 1/4"-20 threaded socket head screws and four (4) lock washers (they are the smaller of the two provided in separate accessory bag). Make sure the square key on the mounting bracket or spacer assembly engages with the slot on the Dymodrill motor.
3. Fasten the mounting bracket (or optional spacer assembly) and motor assembly to the cradle slot (Fig. 6) by inserting the four (4) 3/8"-16 threaded socket head cap screws and lock washers (they are the larger of the two provided in separate accessory bag) through the cradle. Place screws through the holes from the other side of the Dymorig and place lock washers on the side of the mounting bracket.

After the Dymodrill motor is mounted, make sure the cradle is rigid against the column to prevent the motor or bit from wobbling during coring. Before coring, try to wiggle the cradle and motor with your hands. If the cradle is secure, it should not move. If it does move, tighten the gib screws that secure the cradle to the column (see "Adjusting the Gib Screws").



Adjusting the Gib Screws (Fig. 7)

After the motor is mounted, make sure the cradle and motor are rigid against the column to prevent the motor or bit from wobbling during coring. Before coring, try to wiggle the cradle with your hands. If the cradle is secure, it should not move. If it does move, tighten the six (6) gib screws that secure the cradle to the column as follows.



For Cat. No. 4125 & 4130 only.

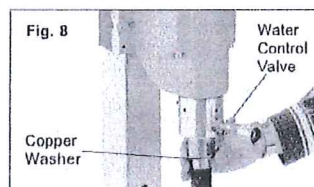
Tighten the six (6) gib screws with the hex wrench (supplied in a separate accessory bag).

For Cat. No. 4115 & 4120 only.

To tighten the six (6) gib screws: loosen the hex nuts, tighten the screws and then tighten the hex nuts.

Selecting and Installing a Core Bit (Fig. 8)

MILWAUKEE offers both standard and premium Dymobits designed to cut through a variety of materials including poured concrete, steel-reinforced concrete, and prestressed concrete. Always use clean, sharp bits.

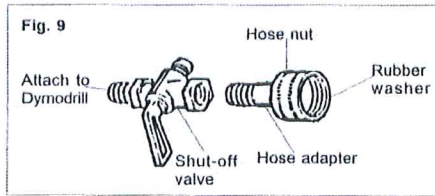


1. To install a bit, grease the spindle and bit threads to prevent corrosion and to help prevent the bit from seizing on the threaded spindle.
2. Slip one copper washer (provided in separate accessory bag with the water shut-off valve components) onto the threaded spindle against the spindle shoulder. The bag should contain an extra copper washer; save it for future use.
3. Thread the bit securely onto the threaded spindle.

Selecting Speeds

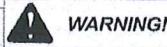
Dymodrills operate in either high or low gear. Use low speed for large diameter bits and high speed for small diameter bits (see "Specifications").

Assembling the Water Shut-Off Valve to the Dymodrig (Fig. 9)



1. Remove the water shut-off valve components from the accessory bag. (The copper washers inside the bag are for bit installation.)
2. Insert the hose adapter into the hose nut. Then insert the rubber washer into the hose nut.
3. Insert the hose nut assembly into the shut-off valve and securely tighten the assembly with the supplied socket wrench; some threads on the hose adapter will still be exposed.
4. Screw the shut-off valve assembly into the water swivel housing on the Dymodrig motor (Fig. 8). Hand-tighten the assembly and then tighten it approximately 1/4 turn with an adjustable wrench (not provided).

Methods for Securing Equipment to Work Surface



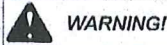
WARNING!

To reduce the risk of injury always secure the rig to the work surface to help prevent personal injury and to protect the rig. An unsecured rig could rotate during coring and possibly cause injury.

NOTE: Some building materials contain steel reinforcements. MILWAUKEE Dymodrills can cut through embedded steel, but are not recommended for coring solid steel plates.

Horizontal Coring (walls)

For specific instructions on using anchors, see "Using an Expansion-Type Anchor".



WARNING!

To reduce the risk of injury always use an expansion-type anchor during horizontal coring. Vacuum systems can slip when used on a vertical surface.

Vertical Coring (floors)

Two methods will work to secure the rig for vertical coring: either an expansion-type anchor OR a vacuum pump and vacuum pad system. Securing the rig with an anchor gives better bit performance because the attachment is more rigid. For specific instructions on assembling the vacuum system, see "Assembling and Using a Vacuum System".

Optional Telescoping Assembly

The telescoping assembly can be used to supplement either securing method.

NOTE: Vac-U-Rig® Cat. No. 4136 includes a vacuum pump and vacuum pad. However, for some applications, you may choose to use an expansion-type anchor to secure the tool.

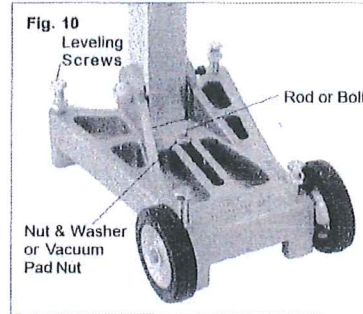
Anchors and Telescoping Assembly are not supplied with any of the above rigs. Telescoping Assembly can be purchased separately (see "Accessories"). Anchors unavailable through MILWAUKEE.

page 8

OPERATION

Securing the Equipment to the Work Surface - Using an Expansion-Type Anchor (Fig. 10)

For Catalog No. 4125 & 4130 only.

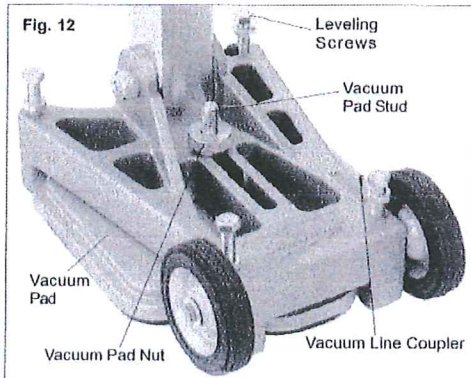
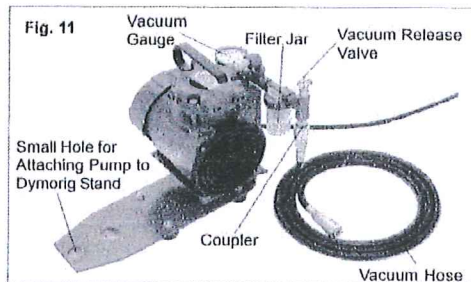


Use a 5/8" expansion-type anchor (not supplied) that will accept a 5/8" threaded rod or bolt to secure the base to the work surface.

1. Level the stand with the four (4) leveling screws using the bubble level as a guide. When the stand is level, tighten the four (4) nuts on the leveling screws.
2. Using an expansion-type anchor, insert a threaded rod or bolt through the slot located on the base of the Dymodrig and tighten the bolt or washer and nut firmly in the anchor following the anchor manufacturer's instructions.

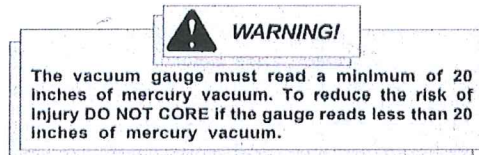
Assembling and Using a Vacuum System (Fig. 11 & 12)

For Catalog No. 4115, 4125 & 4130 only.

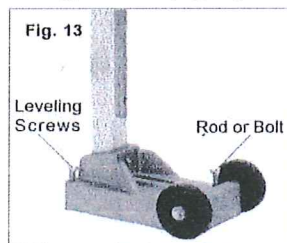


One vacuum pad is supplied with the Vac-U-Rig® and they can be purchased separately for other Dymorigs. The vacuum pad is most effective when it is secured to a relatively smooth surface such as poured concrete. If the surface is too porous or rough, the pad may not hold securely. Before using a vacuum pad, always check the gasket on the underside of the pad to make sure it isn't worn, cracked or torn. If it is, immediately replace the gasket, otherwise the vacuum pad may not hold the rig securely. To replace the gasket, see "Replacing Vacuum Pad Gaskets" in the "Maintenance" section. See "Accessories" for gasket part number.

1. To use the vacuum pad, tilt the base of the rig and slide the vacuum pad under it so the threaded stud goes through the hole on the end of the center slot on the base. Then set the stand upright.
2. Position the rig as required for coring the hole.
3. Level the rig with the four (4) leveling screws using the bubble level (4125 & 4130 only) as a guide. When the rig is level, tighten the four (4) nuts (4125 & 4130 only) on the leveling screws.
4. Connect one end of the supplied vacuum hose to the vacuum line coupler on the vacuum pad. To do this, pull back the collar on the hose and push the end of the hose onto the coupler until it snaps into place. Then, connect the other end of the vacuum hose to the coupler on the vacuum pump following the same procedure.
5. The vacuum pump may be set on a dry surface away from the rig or mounted to the base of the Dymorig as shown. However, DO NOT mount the vacuum pump to the Dymorig when angle coring.
To mount the vacuum pump on the Dymorig, place the small hole on the vacuum pump mounting bracket over the vacuum pad stud on the Dymorig.
6. Plug the vacuum pump into the power source—the pump will start automatically. Step on the vacuum pad or the vacuum pad stud until the vacuum pad lowers and adheres to the work surface.
7. After the pad is secured to at least 20 inches of mercury vacuum, tighten the vacuum pad nut securely.



Using an Expansion-Type Anchor (Fig. 13)

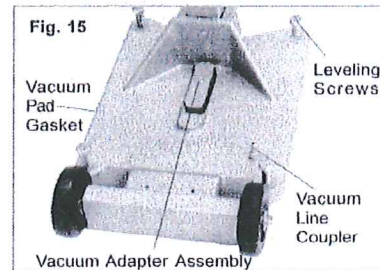
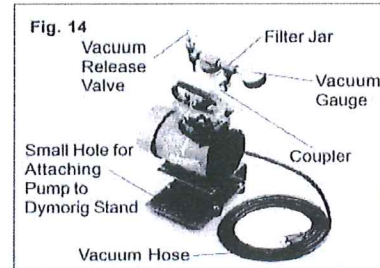


For Cat. No. 4115 & 4120 only.

Use a 5/8" expansion-type anchor (not supplied) that will accept a 5/8" threaded rod or bolt to secure the base to the work surface.

1. Remove the rubber gasket from the base.
2. Level the rig with the four (4) leveling screws.
3. Using an expansion-type anchor, insert a threaded rod or bolt through the slot located in the base of the Dymorig and tighten the bolt or washer and nut firmly in the anchor following the manufacturer's instructions.

Assembling and Using a Vacuum System (Fig. 14 & 15)



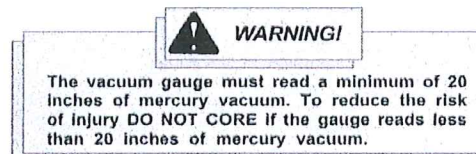
For Cat. No. 4120 only.

The vacuum pad is most effective when it is secured to a relatively smooth surface such as poured concrete.

If the surface is too porous or rough, the vacuum pad may not hold securely. Before using the vacuum pad, always check the gasket on the underside of the base to make sure it isn't worn, cracked or torn. If it is, immediately replace the gasket, otherwise the vacuum may not hold the rig securely.

To replace the gasket, see "Replacing Vacuum Pad Gaskets" in the "Maintenance" section. See "Accessories" for gasket part number.

1. Position the rig as required for coring the hole.
2. Loosen the four (4) leveling screws until the ends are above the bottom surface of the base.
3. Place the vacuum adapter assembly into the slot in the base.
4. Connect one end of the supplied vacuum hose to the vacuum line coupler on the vacuum base. To do this, pull back the collar on the hose and push the end of the hose onto the coupler until it snaps into place. Connect the other end of the vacuum hose to the coupler on the vacuum pump following the same procedure.
5. The vacuum pump may be set on a dry surface away from the rig or mounted to the base of the Dymorig as shown. To mount the vacuum pump on the base, place the small holes on the vacuum pump mounting bracket over the two tapped holes on the base. Attach the vacuum pump to the base with two (2) 1/4" - 20 screws supplied in the accessory bag.
6. Plug the vacuum pump into the power source - the pump will start automatically. Step on the base until it lowers and adheres to the work surface.
7. Tighten the four (4) leveling screws only enough to eliminate rocking. Over-tightening can lift the gasket off the ground and release the vacuum.



Using the Optional Telescoping Assembly

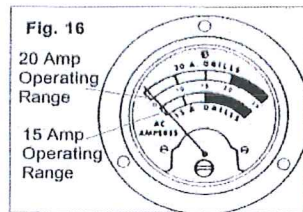
1. Secure the rig using either an expansion-type anchor or a vacuum system (see "Securing the Equipment to the Work Surface").
2. Place the top flange of the extension against a ceiling or wall and place the other end on the jack screw at the top of the Dymorig column.

The assembly is adjustable up to 14 feet. Turn the jack screw to tighten the assembly and to make small adjustments.

Supply an Adequate Water Flow

An adequate supply of water must flow freely and constantly during the entire cut. Dymodrills are equipped with a built-in water shut-off valve to allow water to flow down the inside and up around the outside of the bit. This acts to cool the bit and flush cuttings from the hole.

Reading the Meter Box (Fig. 16)



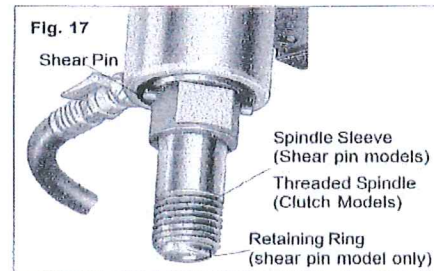
The ammeter is the dial indicator on the meter box, which is standard equipment with the Vac-U-Rig® and can be purchased separately for other Dymorigs. The ammeter provides pressure feedback during coring, allowing you to help prevent motor overload and premature bit wear. The green area on the ammeter is the operating range and the red area indicates that you are applying too much pressure.



WARNING!

To reduce the risk of injury, always use Dymodrills in conjunction with meter boxes. Meter Boxes provide a switch to turn the Dymodrill motor OFF and ON and an optimum operation range to help prevent motor overload.

Shear Pin and Clutch (Fig. 17)



Dymodrill Nos. 4079, 4090, and 4094 contain a shear pin to protect the gear and motor against overload. This pin drives the spindle sleeve. If the bit binds, the pin will shear to prevent gear and motor damage. Extra shear pins are supplied with each Dymodrill and can be replaced (see "Accessories" for part numbers). It is important to check the condition of the spindle before using the tool each time. The spindle must be smooth without grooves or pitting. If the spindle is not in good condition, it is possible for the threaded spindle sleeve and the internal spindle to weld together and seize during coring (see "Lubricating the Spindle for Dymodrills with a Shear Pin" in the "Maintenance" section for spindle lubricating instructions).

Cat. Nos. 4004, 4005, 4092, 4096 and 4097 feature a friction clutch rather than a shear pin to protect the motor and gears. If the motor overloads, the clutch will begin to slip and the bit will stop rotating. The clutch is factory-set and does not require adjustment. Nuisance (frequent) clutch slippage should be addressed by an authorized MILWAUKEE service center.



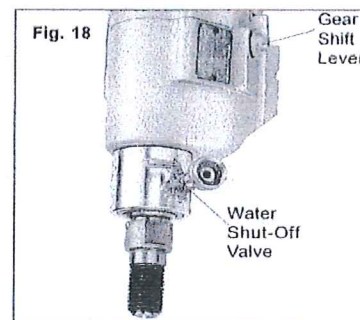
WARNING!

To reduce the risk of injury, always check the work area for hidden wires before coring.

Coring Procedure (Fig. 18)

1. Select and install a bit following guidelines in "Selecting and Installing a Core Bit".
2. Secure the rig to the work surface using one of the methods described in "Methods for Securing Equipment to Work Surface".
3. With the motor OFF, adjust the gear to either high or low speed according to the guidelines in "Selecting Speeds".

NOTE: DO NOT SHIFT SPEEDS WHEN THE DYMODRILL MOTOR IS ON. To adjust the speed on all Dymodrills, move the gear shift lever to the desired setting.



4. Connect the water hose to the Dymodrill water shut-off valve and to the water supply. Make sure the seal is watertight. Use a standard garden hose if you require additional length. Set up a water collection system.

5. If you are using a vacuum system, read the instructions for specific setup in "Assembling & Using a Vacuum System".

Do not continue the following steps until the vacuum gauge reads at least 20 inches of mercury vacuum. Never operate the Dymodrill if the gauge reads less than 20 inches (see "Methods for Securing Equipment to Work Surface"). Always monitor the vacuum gauge during coring. If water collects in the vacuum pump filter jar, empty it to prevent damage to the pump.


WARNING!

To reduce the risk of injury, do not operate the Dymorig if the gauge reads less than 20 inches of mercury vacuum.

6. Turn the Dymodrill motor ON. Turn the water on so it flows freely through the water shut-off valve (see "Supply an Adequate Water Flow"). Turn the valve clockwise to increase water flow and counterclockwise to decrease water flow.

7. While holding the handle, slightly loosen the cradle lock handle and slowly rotate the handle to lower the bit into the workpiece, applying steady, even pressure. To help reduce bit wandering, always use a light load to start the hole and wait for the tip of the bit to penetrate the work surface completely before increasing the load.

8. Use sufficient pressure so the bit cuts constantly. Use the ammeter on the meter box as a guide for proper pressure.

NOTE: If the rig shifts during coring, stop the motor, reposition the rig and resume coring.

9. Monitor the water flow (see "Diamond Coring"). Generally, water should flow at a rate of approximately one to two gallons per minute. If the water flow is too heavy, the two holes in the water swivel housing will leak. If that happens, reduce water flow. Water flow is adequate when the water and cuttings are flushed in a circular pattern about 1/2" around the bit. Keep the work area dry.

10. When the cut is complete, keep the drill motor ON and rotate the handle clockwise to remove the bit. The bit may become stuck in the hole if you turn the motor OFF before the bit is completely removed. Once the bit is removed from the work surface, turn the motor OFF. Tighten the cradle lock handle. Unplug the meter box from the power supply before removing the vacuum pump to prevent accidental starting of the motor when the vacuum pump is released.

If you are using a vacuum pump, unplug it and open the vacuum release valve to release the vacuum.

Retrieving Cores and Deep Coring

When coring holes that are longer than the core bit, follow the steps below.

1. Begin coring the hole as usual. When you have cored to the length of the bit, stop the Dymodrill motor.
2. Remove the core by driving a chisel or slender wedge into the cut between the core and the work surface. You may also use a special core longs, bent wire or anchor bolts to remove the core.
3. After removing the core, reinsert the bit or use a bit extension and continue coring (see "Accessories"). Removing cores with diameters greater than twice their length can be difficult. One method to remove such cores is to first break the core into smaller pieces and then remove the pieces. Electric hammers and chisels are ideal for breaking cores.


WARNING!

When coring through floors, cores generally drop from the bit. To reduce the risk of injury, provide proper protection for people and property below the coring area.

Diamond Coring

Factors that influence diamond core performance:

- Amount of coolant
- Dymorig rigidity
- Dymorig condition
- RPM of drill motor
- Feed pressure applied to bit by operator
- Amount of steel
- Size of embedded steel
- Age of concrete
- Aggregate (size, type, hardness, abrasiveness)
- Type of sand—manufactured vs. river (natural)
- Operator technique
- Operator care
- Bit runout

Operator Technique

Core with consistent, firm feed pressure. Do not subject the bits to sudden impacts. Uneven feed rate cracks diamonds. Low feed pressure polishes diamonds, slows penetration and contributes to bit glazing. High feed pressure can overload the drill motor or can cause diamonds to pull out prematurely, particularly when coring embedded steel. Make the bit work, but do not try to jam the bit through the material.

If vibration occurs:

1. Stop drilling.
2. Turn motor off.
3. Check for loose bolts, nuts and gib screws. Tighten if required.
4. Check for bit runout. Replace if required.

If vibration continues to occur, remove the core and loose material.

If vibration continues to occur after attempting these measures, return the rig to the nearest MILWAUKEE service facility.



1.124-6

	PU 956
DIVISIÓN DE METROLOGÍA - LABORATORIO DE MASA Y FUERZA CERTIFICADO DE CALIBRACION CALIBRATION CERTIFICATE	
NIT: 900.278.570-5	Page 1 of 1

FECHA DE CALIBRACION: Enero 20 de 2022

Date of Calibraon

SOLICITANTE: INGEOLABSAS

Customer

DIRECCION: Avenida La Toma 1E No. 14 – 49.

Address

CIUDAD: Neiva Huila.

City

INSTRUMENTO: Maquina de Ensayos a Compresión– Eléctrica.

Instrument

TIPO: DIGITAL

Type

FABRICANTE:

**FABIEQUIPOS &
DISTRIBUCIONES SAS**

Manufacturer

MODELO: 2015

Model

SERIE: SSY01

Number

CAPACIDAD: 100,0 – 1000,0 kN

Capacity

Número de Páginas del Certificado: 1

Number of pages of the certificate

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Franklin Ricardo

Miguel Calderon

DIVISIÓN DE METROLOGÍA

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Email: ing-mile@hotmail.com

		PU 956
DIVISIÓN DE METROLOGÍA - LABORATORIO DE MASA Y FUERZA CERTIFICADO DE CALIBRACION CALIBRATION CERTIFICATE		
NIT: 900.278.570-5	Page 1 of 1	

FECHA DE CALIBRACION: Febrero 02 de 2022

Date of Calibraon

SOLICITANTE: INGEOLABSAS

Customer

DIRECCION: Avenida La Toma 1E No. 14 - 49.

Address

CIUDAD: Neiva Huila.

City

INSTRUMENTO: Maquina Toma Muestras. Rotaria de lavado.

Instrument

MILWAUKEE ELECTC TOOL COR. BROOKFIELD, 5305

TIPO: DIGITAL

Type

FABRICANTE: MILWAUKER DYMORIG

Manufacturer

MODELO: 2017

Model

SERIE: A08A3153/7000

Number

CAPACIDAD: 100,0 - 1000,0 kN

Capacity

Número de Páginas del Certificado: 1

Number of pages of the certificate

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Reviewed by:

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CalibradoPor:
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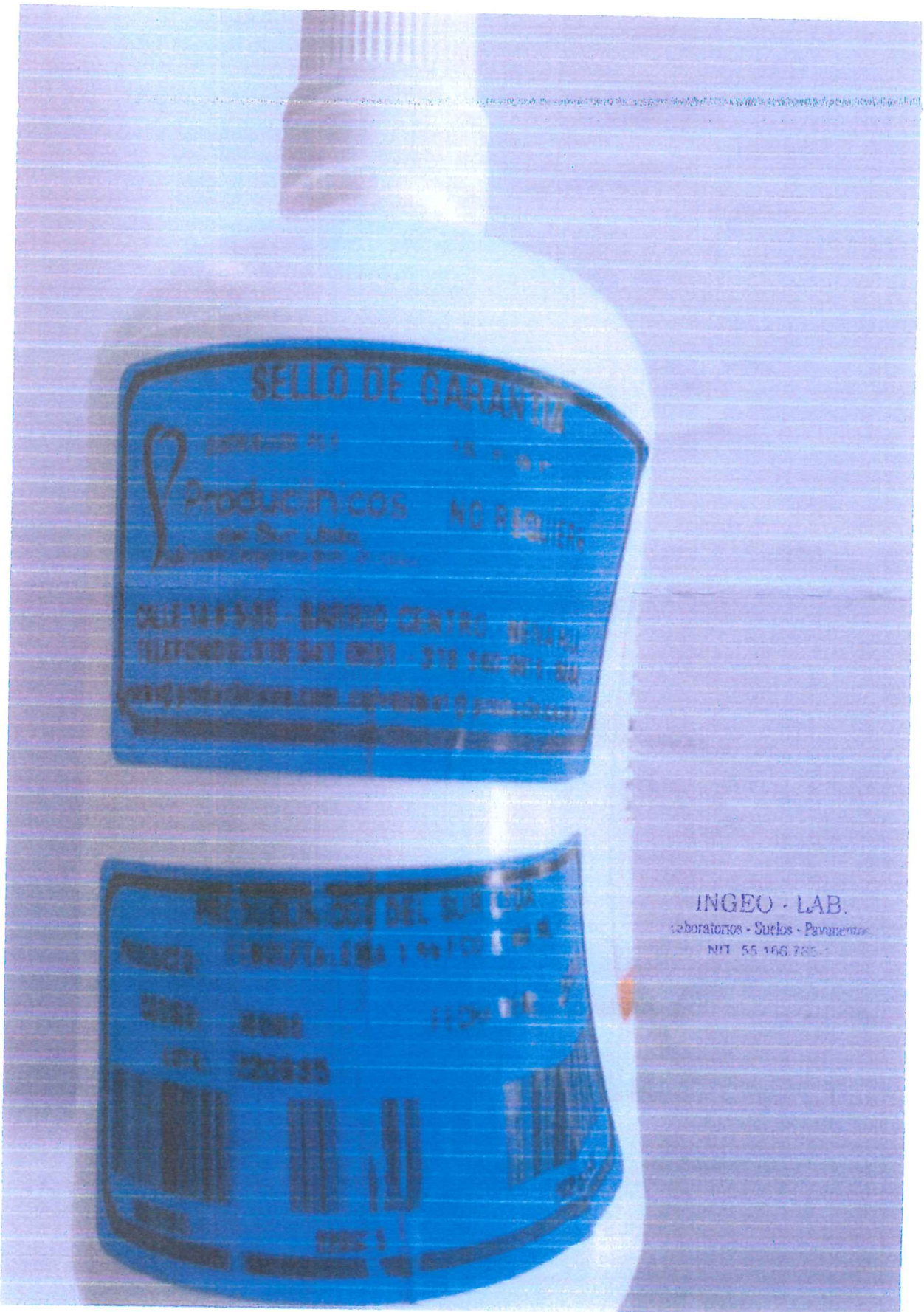
Email: ing-mile@hotmail.com

	FICHA TÉCNICA FENOLFTALEINA 1 % 21001
FABRICANTE: QUÍMICOS ALBOR LTDA. REGISTRO SANITARIO: No requiere Uso exclusivo en el laboratorio	
PRESENTACIONES	LOTE
Frasco en PEBD por 100 ml	No asignado
Uso	La Fenolftaleína 1% Albor se utiliza como solución indicadora de punto final en titulaciones ácido-base. La Fenolftaleína 1% Albor en disoluciones ácidas permanece incoloro y en disoluciones básicas vira a rosado en pH de 8.2 a 9.6.
Componentes	Alcohol etílico Fenolftaleína
Almacenamiento	Almacenar a temperatura de 5 a 30°C, en recipiente bien cerrado, en sitio seco y ventilado, alejado de fuentes de ignición y de calor, protegido de la luz.
Vida útil	Tres (3) años después de ser fabricado, bajo condiciones de almacenamiento recomendadas. (Ver fecha de vencimiento en etiqueta).
Precauciones y advertencias	La Fenolftaleína 1% Albor es inflamable y puede tener efecto carcinogénico y mutagénico, debe manejarse con precaución y evitar su contacto con los ojos o la piel.
Eliminación	Los productos químicos han de eliminarse siguiendo la normatividad nacional.
ESPECIFICACIONES	
Apariencia	Líquido
Color	Incoloro
Olor	Alcohol característico
Densidad 20° C	0.8 ± 0.07 g/cm ³
Solubilidad	Agua 20° C

Los datos suministrados en este documento se basan en nuestro actual conocimiento, siendo una guía y no exime la responsabilidad de comprobar nuestros productos respecto a su aptitud para los usos destinados.

Fecha creación: 06.2017

Última actualización: 06.2017



SELLO DE GARANTIA



Produccioncos
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100% ARABICA

NO REG. ORG.

CALLE 14 # 5-35 - BARRIO CENTRAL - NEIVA
TELÉFONOS: 318 541 0001 - 318 541 0011
Café de Especialidad para el Comercio

CAFÉ DEL SUR

PRODUCTO: CAFÉ DEL SUR

GRADO: 100%

LOT: 120835



100%

INGEO - LAB.

Laboratorios - Surlos - Pavimentos

NIT. 55.166.735