



CHROMALOX.

Advanced Thermal Technologies.

CHROMALOX
PRESENTACIÓN 92

INTRODUCCIÓN DEL PRESENTADOR



Ingeniero Electrónico con 7 años de experiencia en desarrollo de proyectos de transferencia de calor y mantenimiento de temperatura en tuberías y tanques.

Actualmente trabajo en Chromalox a cargo del Cono Sur LATAM (Argentina, Chile, Perú, Ecuador y Bolivia).

Experiencia en actividades de precomisionamiento, comisionamiento y puesta en marcha de calentadores eléctricos, sistemas heat tracing y sus respectivos sistemas de control.

Ing. Elvis Bravo
Gerente de Ventas Cono Sur LATAM
elvis.bravo@chromalox.com

AGENDA



Acerca de Chromalox



¿Para qué uso heat tracing?



Aplicaciones en industrias



Accesorios heat tracing.



Definición de circuitos heat tracing.

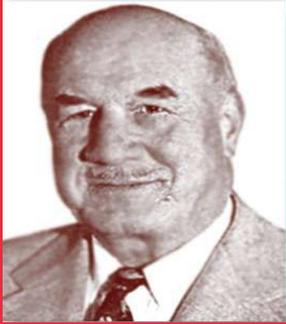


Tipo de Controles.



Dependencias de líneas para uso en Chromatrace.

ACERCA DE CHROMALOX



WWII
1940's



Cold War
1950's



Space Race
1960's



Quality Certificates

Chromalox fue fundada en 1917 por Edwin Wiegand.

Pionero en la innovación de calentadores eléctricos, fabricó componentes de calor que formaron parte de los primeros electrodomésticos modernos.

Chromalox suministró calentadores a la armada de EE. UU durante la segunda guerra mundial (39-45), así se desarrollaron nuevos productos para apoyar la era nuclear durante los primeros años de la guerra fría. (47-91).

Chromalox participó activamente dando soporte a la NASA durante la carrera espacial (55-75)



Test and certify safety
equipment

Preservation of life &
property

ACERCA DE CHROMALOX



DirectConnect™



Nuestra sede central está en Pittsburgh, Pensilvania, tenemos presencia en los seis continentes. Tenemos 4 plantas en EE. UU (Ogden, Tennessee, Laredo, Texas), 1 centro de servicio y reparación en Brasil. Así también plantas en Europa y Asia.

Nuestros productos se distribuyen en 3 grandes rubros:

- Componentes.
- Sistemas Heat tracing.
- Sistemas de calentamiento eléctrico.

Ingeniería de las soluciones térmicas del futuro

Generación vapor eléctrico → Objetivos Net Zero (cero emisiones locales, alcance 1 y 2).

Solución neutra en carbono cuando se acompaña de electricidad renovable, allanando el camino hacia un futuro más sostenible.

www.chromalox.com

ACERCA DE CHROMALOX



TENNESSEE

¿PARA QUÉ USO HEAT TRACING?

SECTOR:

INDUSTRIAL

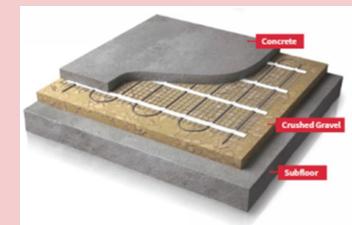
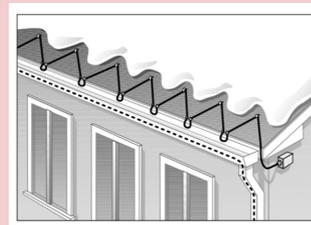
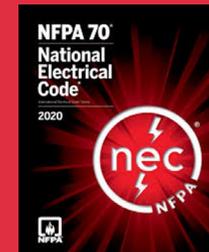
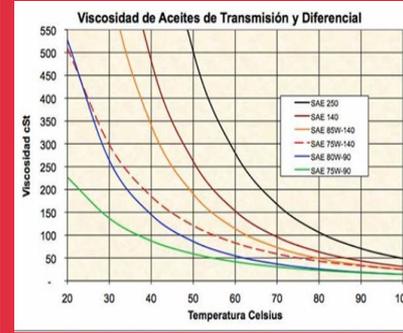
Mantener temperatura de procesos.

- Bajar viscosidad.
- Evitar congelamiento.

COMERCIAL

Evitar congelamiento sistemas de extinción de incendios.

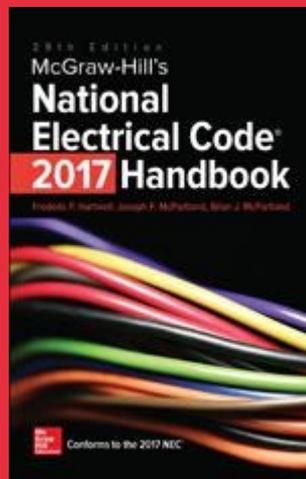
- Deshielo de techos y canalones.
- Derretir nieve en superficies.



APLICACIONES EN INDUSTRIAS

ESTANDARES

IEEE 515 – 2011 STANDARD



NEC article 427

NEC 426.10

NEC 427.4

NEC 426.12

NEC 210.20(A)

NEC 426.13

NEC 427.10

NEC 426.21

NEC 427.12-> 427.16

NEC 210.8(A)(3)

NEC 427.22

NEC 426.50(A)

NEC 427.26

NEC 426.50(B)

NEC 427.55

NEC articles 500-> 516

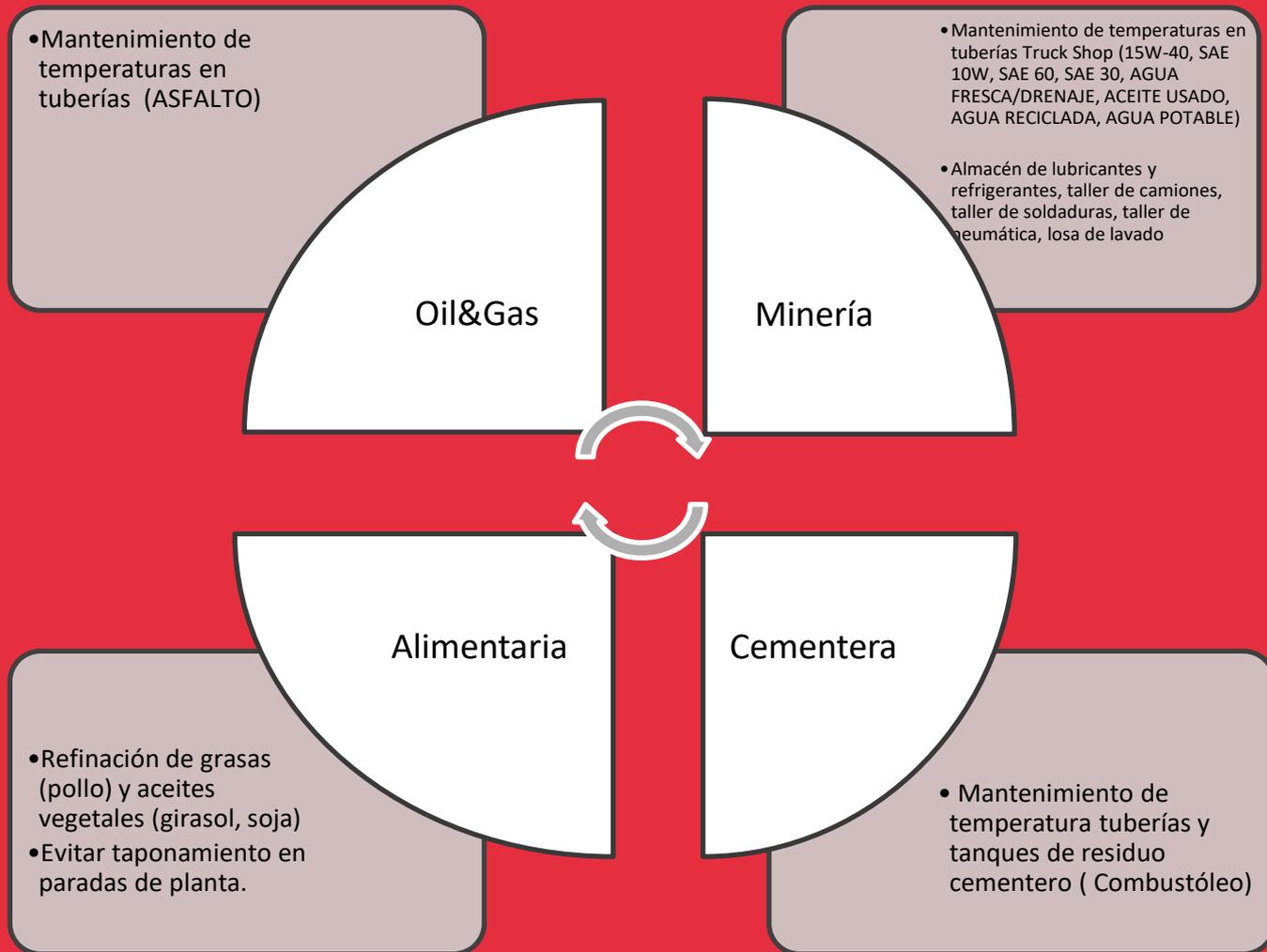
8

APLICACIONES EN INDUSTRIAS

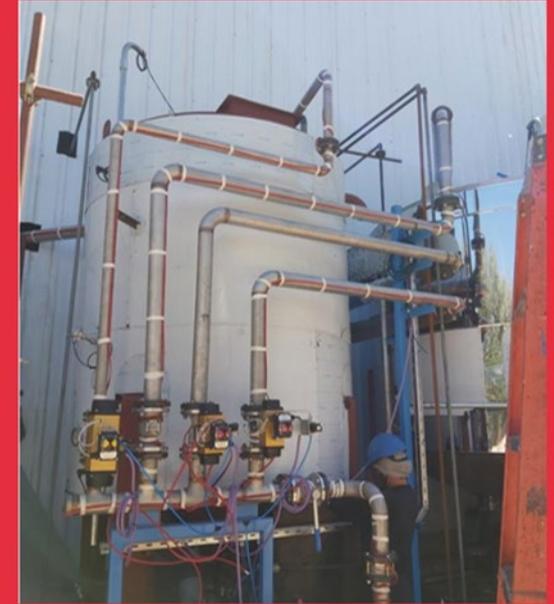


9

APLICACIONES EN INDUSTRIAS



APLICACIONES EN INDUSTRIAS



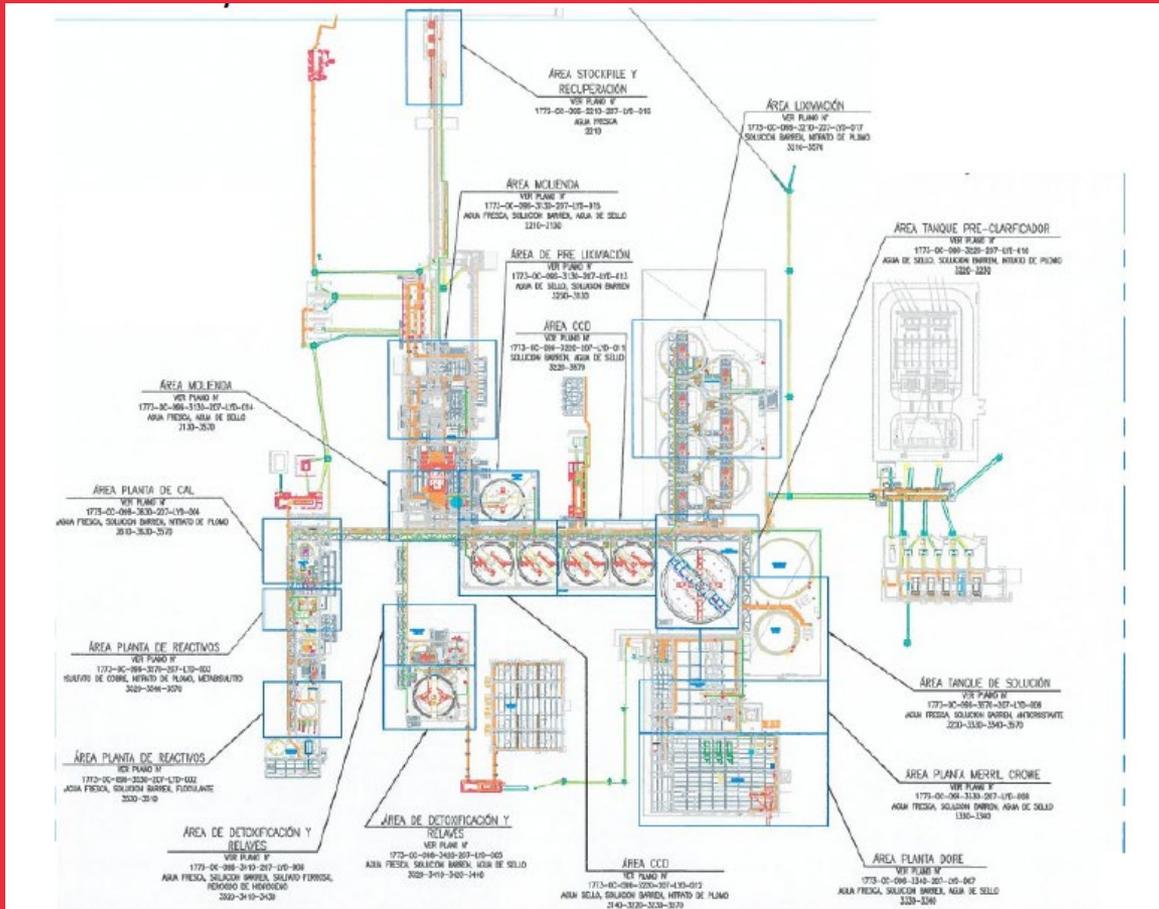
APLICACIONES EN INDUSTRIAS



- Planta de CAL
- Area Filtrado
- Area Detoxificación
- Area Reactivos DETOX
- Area cianuración
- Area Floculante
- Area CCD
- Area Merrill Crowe
- Area fundición
- Area Molienda
- Area Cianuro
- Area Chancado

APLICACIONES EN INDUSTRIAS

- Solución Barren
- Nitrato de Plomo
- Sulfato de Cobre
- Floculantes
- Sulfato Ferroso
- Peroxido de Hidrogeno
- Agua de sello
- Agua fresca
- Anticrustante



Àrea Lixiviación y Pre_Li..
Area Molienda
Area Planta de Cal
Planta de Reactivos
Area de Detoxificación y Relaves
Area Planta DORE
Area Planta Merrill Crowe

APLICACIONES EN INDUSTRIAS

HEAT TRACING- MINERY #3

TRANSFORMAMOS JUNTOS EL PRESENTE Y EL FUTURO DEL PERÚ

Los que construimos Quellaveco aspiramos a que este proyecto redefina la forma de hacer minería en nuestro país.

Con tecnología de punta, mejoras a la seguridad y productividad y reducción en el uso de recursos naturales, nuestro reto es generar bases sólidas para el desarrollo sostenible de Moquegua, y promover oportunidades para todo el Perú.

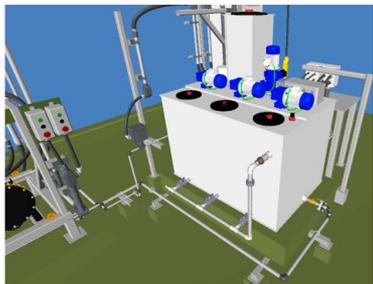
¡Juntos lo estamos logrando!



APLICACIONES EN INDUSTRIAS

SISTEMA DE TRATAMIENTO DE AGUA- UM MINERY # 4

APLICACIÓN DE HEAT TRACING EN PLANTA DE FLOCULANTE



Diseño 3D de planta de floculante en MINSUR



De diseño a fabricación



Controlador de temperatura Chromalox en montaje

- ✓ Instalación de heat tracing y aislamiento térmico
- ✓ Puesta en marcha
- ✓ Llave en mano



0.528 m Y: -4.131 m Z: 1.012 m

| CHROMALOX CIRCUIT NUMBER | VOLTS | CURRENT (AMP) | LOAD (KW) | AREA CLASS | CABLE SIZE/WEIGHT (MM/POUNDS) | TYPE |
|--------------------------|-------|---------------|-----------|------------|-------------------------------|------|
| 000000HEAT-CHROMALOX | 220 | 8.2 | 8.7 | 3/MS | OR8 | 212 |

| LINE NUMBER | PIPE | INSULATION | WEATHER MODEL NUMBER | MINI. TEMP. | MAXI. TEMP. |
|-------------|-------|------------|----------------------|-------------|-------------|
| LINE 1 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 2 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 3 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 4 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 5 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 6 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 7 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 8 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 9 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 10 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 11 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 12 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 13 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 14 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 15 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 16 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 17 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 18 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 19 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 20 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 21 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 22 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 23 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 24 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 25 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 26 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 27 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 28 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 29 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 30 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 31 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 32 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 33 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 34 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 35 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 36 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 37 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 38 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 39 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 40 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 41 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 42 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 43 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 44 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 45 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 46 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 47 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 48 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 49 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 50 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 51 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 52 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 53 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 54 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 55 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 56 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 57 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 58 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 59 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 60 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 61 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 62 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 63 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 64 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 65 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 66 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 67 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 68 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 69 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 70 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 71 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 72 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 73 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 74 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 75 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 76 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 77 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 78 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 79 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 80 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 81 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 82 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 83 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 84 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 85 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 86 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 87 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 88 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 89 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 90 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 91 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 92 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 93 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 94 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 95 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 96 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 97 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 98 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 99 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |
| LINE 100 | Steel | Elasomeric | 465 19.4 08 | 27.3 | 4.7 |

FLOCULANTES
AC. SULFURICO
ANTIESPUMANTE

DISTRIBUIDOR

David Pariasca Bocanegra
Jefe División de Dosificación

David.Pariasca@intech-sa.com

+51 914 047 980



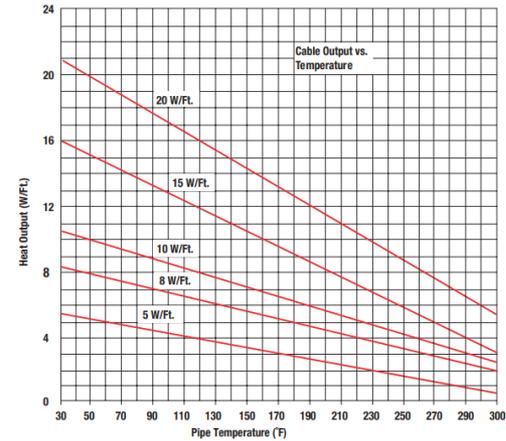
ACCESORIOS HEAT TRACING

SELF REGULATING CABLE

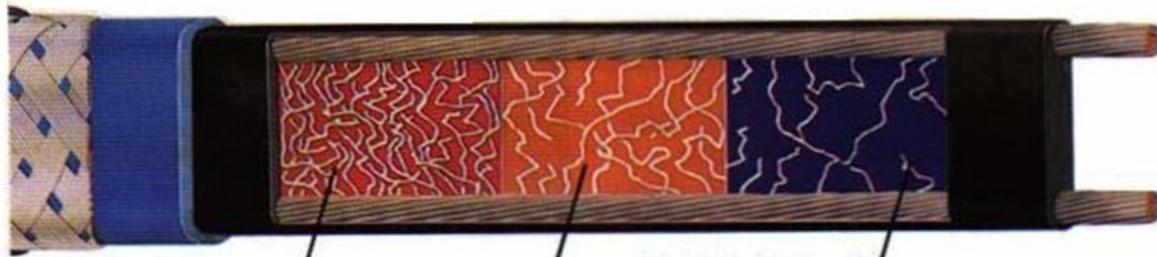


- A. Twin 16 AWG Copper Buss Wires
- B. Semiconductive Polymer Core Matrix
- C. Base Jacket
- D. Metallic Braid
- E. Overjacket

Thermal Output Ratings on Insulated Metal Pipe¹



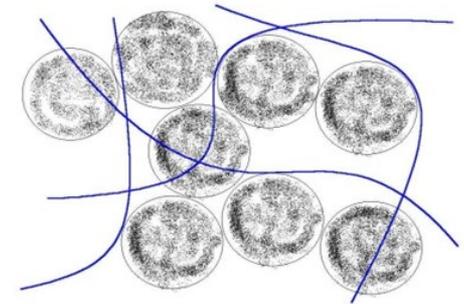
Positive Temperature Coefficient
The Percolation Theory



Cold Pipe
 Most conductive paths
 High watt output

As Pipe Temperature Increases
 Fewer conductive paths
 Reduced watt output

Warm Pipe
 Fewest conductive paths
 Minimum watt output

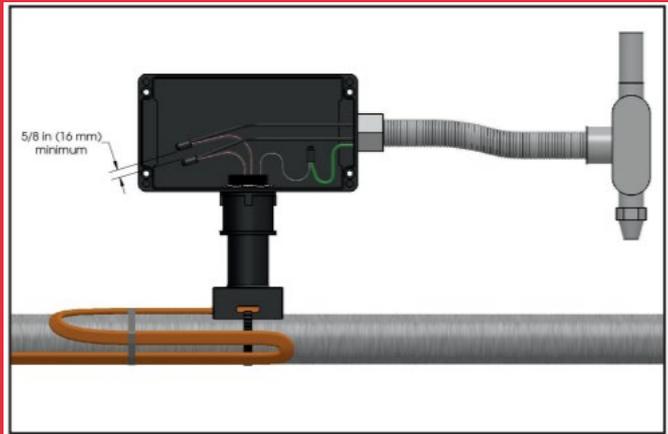
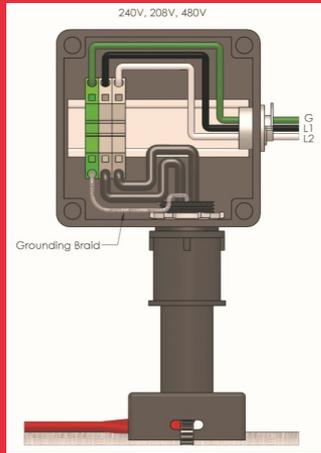


Conductive Polymer Composite
Carbon Filled Polymers

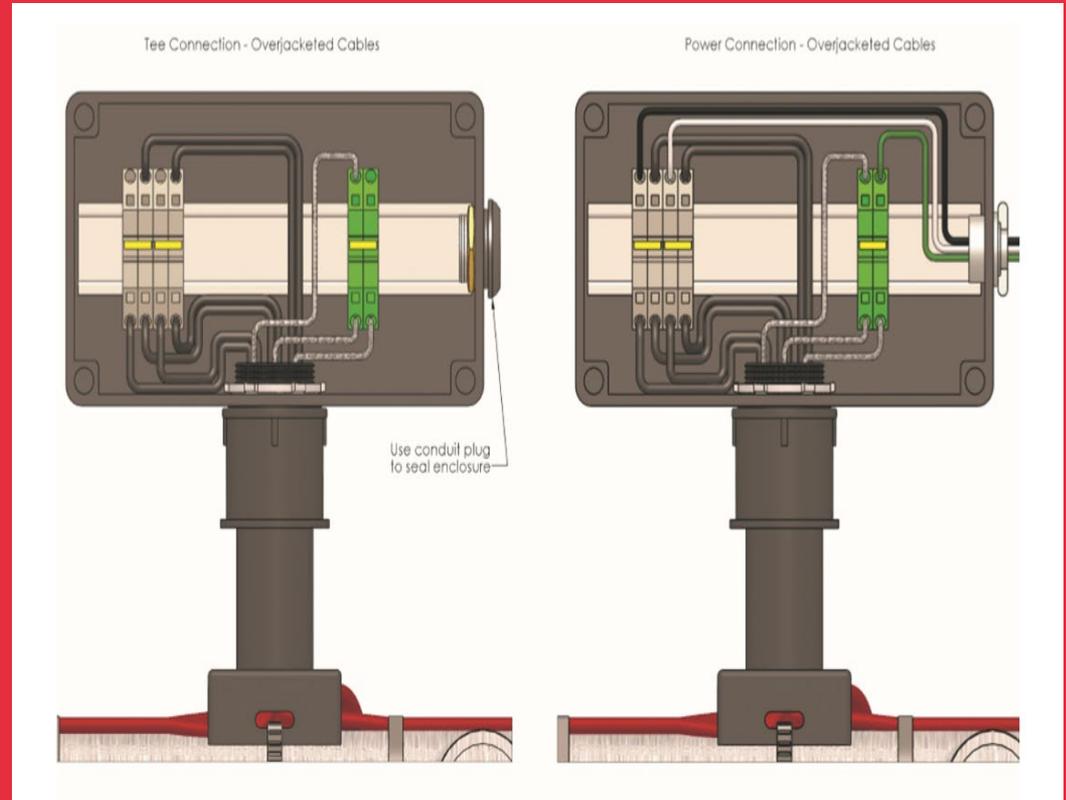


ACCESORIOS HEAT TRACING

UPC



UMC



ACCESORIOS HEAT TRACING

INICIO



UPC



USL



RTPC

DERIVACIÓN



UMC



RTST



RT-RST

FINAL



UES



UESL



RTES



RT-RES

ACCESORIOS HEAT TRACING

CONTROLES

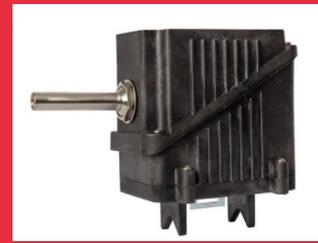


RBF

SENSOR DE LÍNEA



RTBC



RTAS



DTS-HAZ



ITC1/ITC2



GIC-AMB

SENSOR DE AMBIENTE

ACCESORIOS HEAT TRACING



AT-1



PS-X

| | |
|-------|--------------------|
| PS-1 | 1/2" to 3/4" pipes |
| PS-3 | 1" to 3-1/2" pipes |
| PS-10 | 2-1/2" to 9" pipes |
| PS-20 | 9" to 19.5" pipes |



FT-3



CL-1

100 ft = 30.48 m

| Tape Type | Rolls Needed per 100' of Pipe | | | | | | | | |
|-----------|-------------------------------|---|---|---|---|---|----|----|----|
| | Pipe Dia. (In.) | | | | | | | | |
| | 1/2" | 1 | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
| FT-3 | 1 | 2 | 4 | 4 | 6 | 8 | 10 | 12 | 15 |

ACCESORIOS HEAT TRACING

Tipo de sensor usado en Heat tracing. Ω

PT100 \rightarrow RTD, Platino, resistencia eléctrica de 100 Ω a una temperatura de 0 $^{\circ}\text{C}$.

Un sensor RTD varía la resistencia en función de la temperatura.

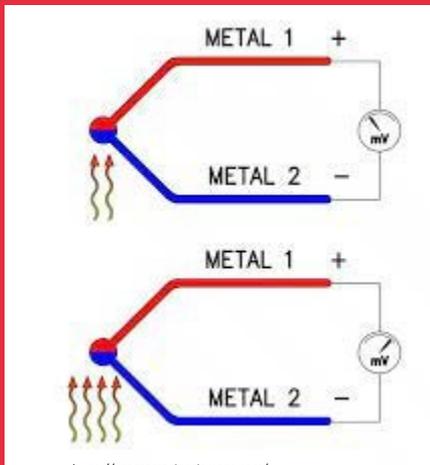
Vienen de 2,3 o 4 hilos, más hilos más exactitud.

La resistencia de un metal cambia con las fluctuaciones de temperatura.

Ley de Pouillet $R = \rho L/A$

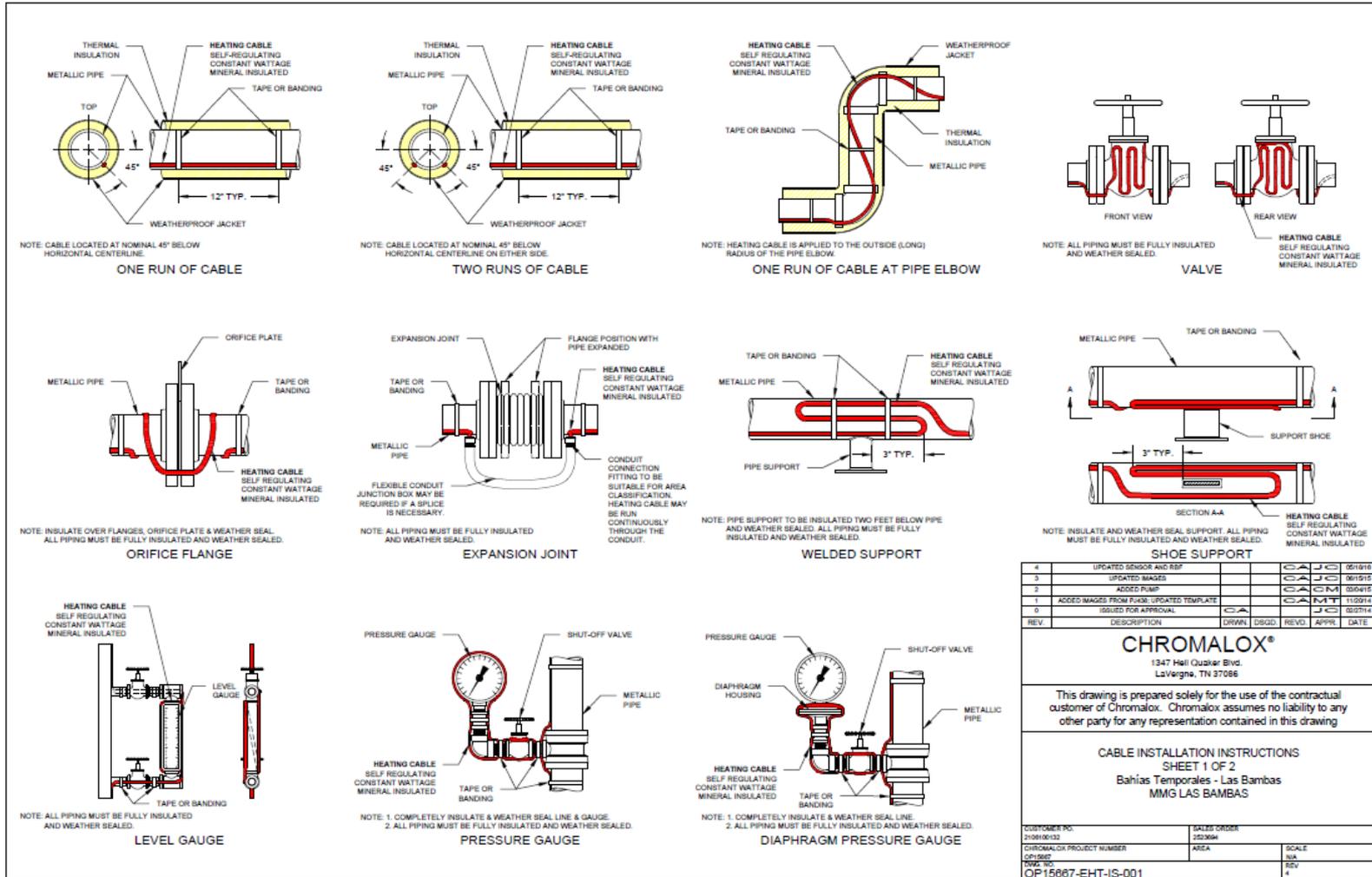
Coefficiente de temperatura $R = R_0 (1 + \alpha \Delta T)$

Tipo de sensor usado en Calentadores.



Efecto Seebek: Termocuplas. mV

ACCESORIOS HEAT TRACING



| | | | | | | |
|------|--|-------|--------|----------|---------|------|
| 4 | UPDATED SENSOR AND REP | CA | JJC | 10/18/18 | | |
| 3 | UPDATED IMAGES | CA | JJC | 10/15/18 | | |
| 2 | ADDED PUMP | CA | CM | 10/04/18 | | |
| 1 | ADDED IMAGES FROM FINAL UPDATED TEMPLATE | CA | NAT | 11/09/14 | | |
| 0 | ISSUED FOR APPROVAL | CA | JJC | 10/27/14 | | |
| REV. | DESCRIPTION | DRAWN | DESIGN | REVIEW | APPROVE | DATE |

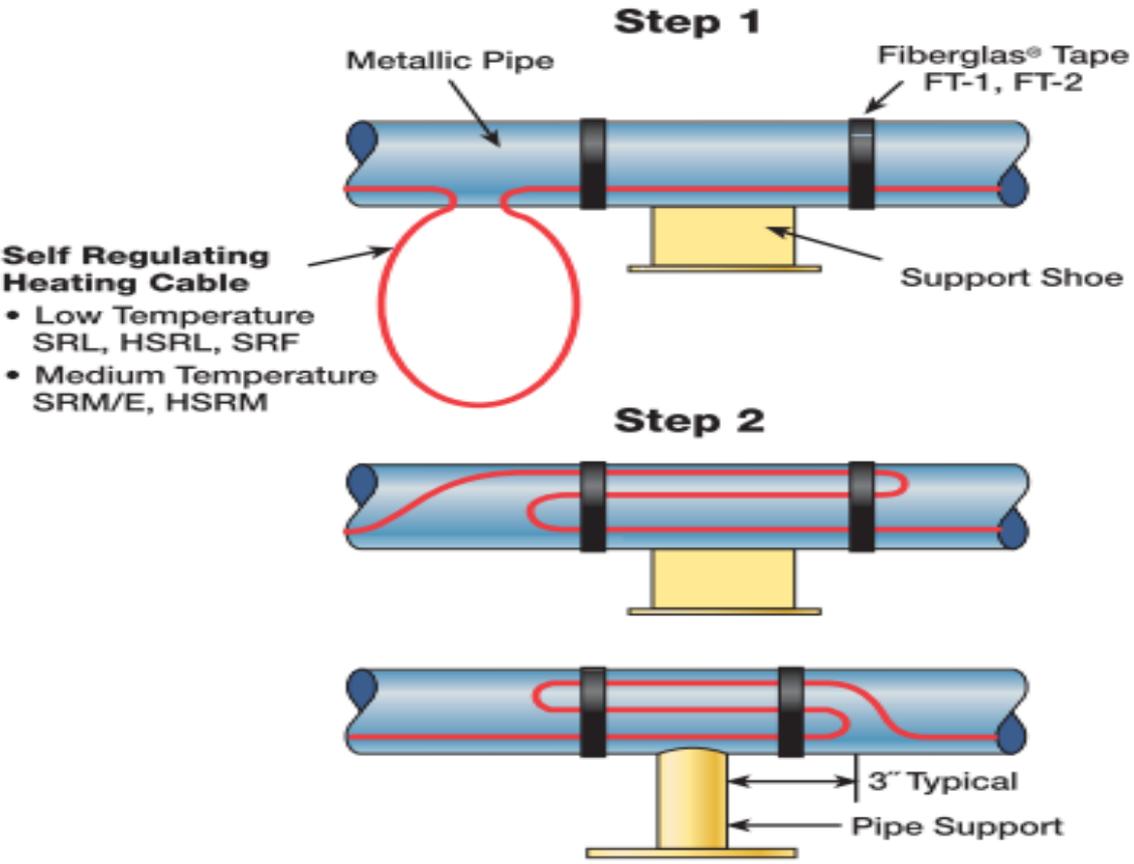
CHROMALOX®
 1347 Hill Quaker Blvd.
 La Vergne, TN 37086

This drawing is prepared solely for the use of the contractual customer of Chromalox. Chromalox assumes no liability to any other party for any representation contained in this drawing.

CABLE INSTALLATION INSTRUCTIONS
 SHEET 1 OF 2
 Bahias Temporales - Las Bambas
 MMG LAS BAMBAS

| | | |
|-------------------------------------|------------------------|---------------|
| DOCUMENT NO. 2108100102 | SALES ORDER 2103694 | SCALE 1/1" |
| CHROMALOX PROJECT NUMBER OP15867 | AREA | REV 4 |
| OP15867-EHT-IS-001 | | |

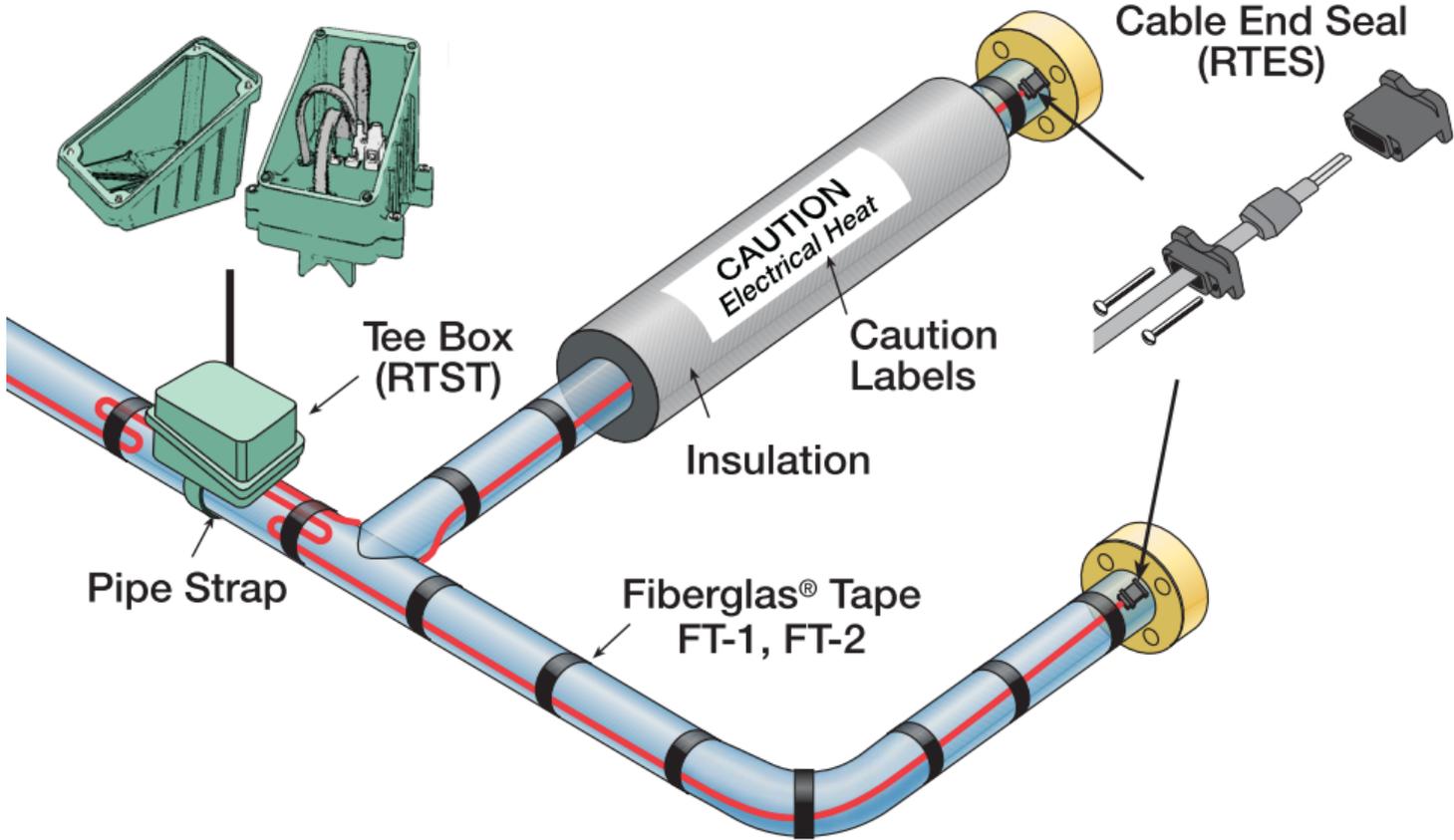
ACCESORIOS HEAT TRACING



ACCESORIOS HEAT TRACING



ACCESORIOS HEAT TRACING



ACCESORIOS HEAT TRACING



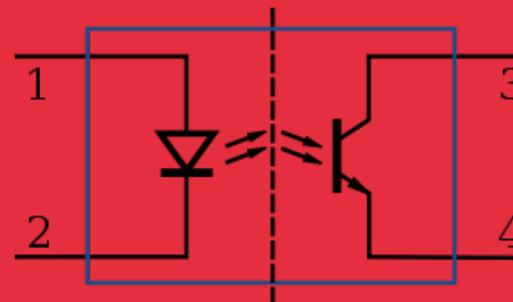
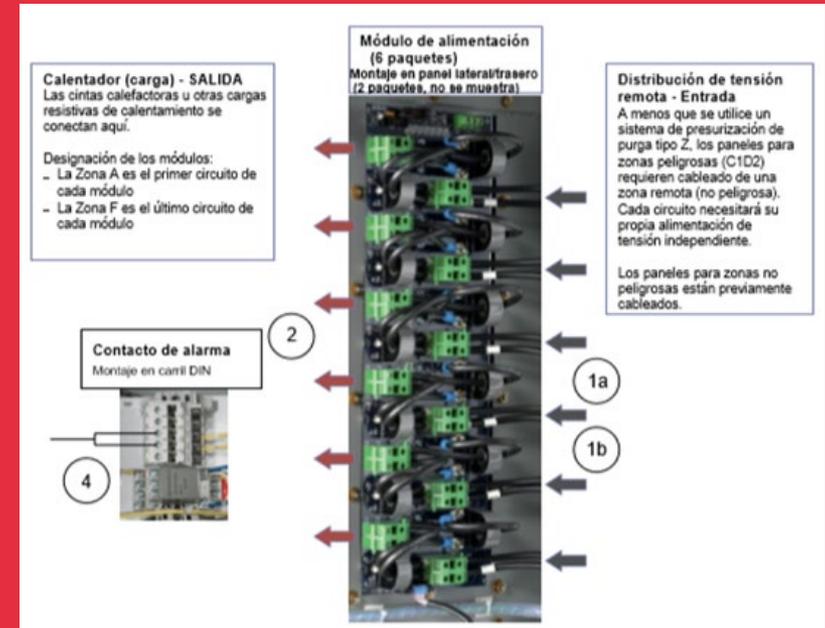
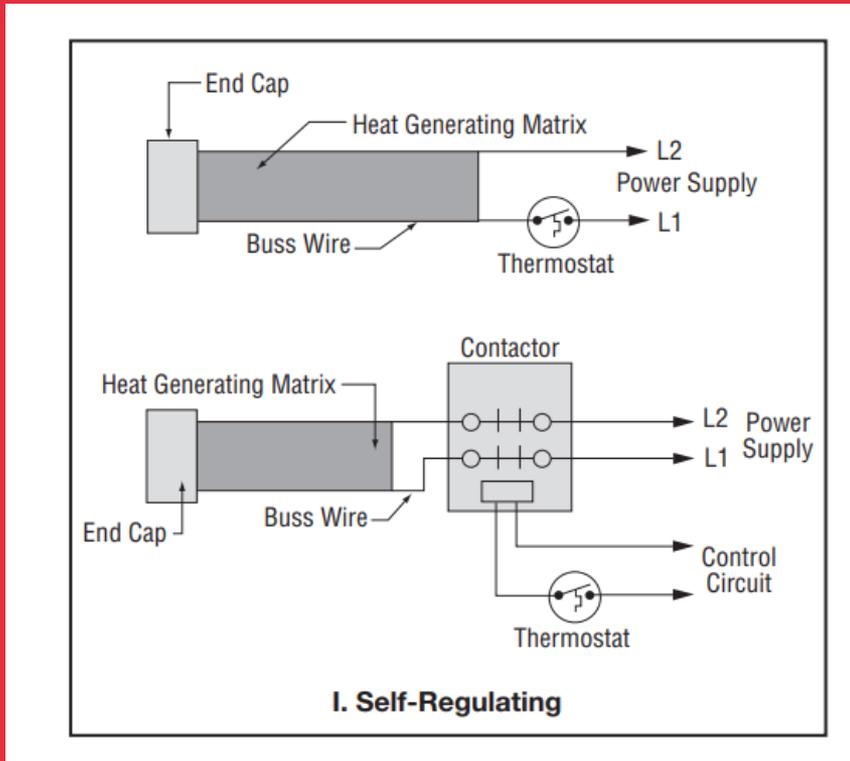
DEFINICIÓN DE CIRCUITOS HEAT TRACING

| Industrial | | | | | | |
|-------------------------------|--------------|--------------|--------------|-------------------|-------------|------------|
| Características | SRL | SRP | SRM/E | CWM | SLL | MI |
| Max. Temp. Mantenimiento | 65 °C | 107 °C | 150 °C | 160 °C | 150 °C | 593 °C |
| Max. Exposición (apagado) | 85 °C | 135 °C | 215 °C | 204 °C | 232 °C | 760 °C |
| Max. Longitud de circuito (m) | 201 m | 229 m | 229 m | 274 m | 2286 m | 305 m |
| Tamaño cable conductor | 16 | 16 | 16 | 4,8,12 | 10,12,14,16 | N/A |
| Voltaje | 120, 280-277 | 120, 280-277 | 120, 280-277 | 120, 280-277, 480 | 120-600 | Mas de 600 |
| Se puede cortar en campo | ✓ | ✓ | ✓ | ✓ | ✓ | No |

TIPO DE CONTROLES

Control por SSR

Control por termostato



Wikidata

TIPO DE CONTROLES

INTELLITRACE

RTBC



DTS-HAZ



ITC1/ ITC2



ITAS-4833

- Pantalla táctil HMI (25.4 cm).
- Acero Inox 304 (NEMA 4X).
- Control SCR (Zero cross fired).
- Arranque Suave (Soft starter).
- Sistema completo de alarma y monitoreo:
- Falla a tierra.
- Temperaturas (SP, PV).
- Sensor.
- Carga de corriente.
- Comunicaciones.
- Control por circuito independiente.
- Capacidad 48 circuitos, escalable a 72.
- Mantenimiento preventivo.
- Exporta alarmas a un USB.
- Opción: sensores inalámbricos.

UL
UL
CE

TIPO DE CONTROLES

ITLS

- Pantalla táctil HMI (25.4 cm).
- Acero Inox 304 (NEMA 4X).
- Control SSR (Zero cross fired).
- Arranque Suave (Soft starter).
- Sistema completo de alarma y monitoreo:
 - ✓ Falla a tierra.
 - ✓ Temperaturas (SP, PV).
 - ✓ Sensor.
 - ✓ Carga de corriente.
 - ✓ Comunicaciones.
- Control por circuito independiente.
- Capacidad 48 circuitos, escalable a 72.
- Mantenimiento preventivo.
- Exporta alarmas a un USB.
- Opción: sensores inalámbricos.



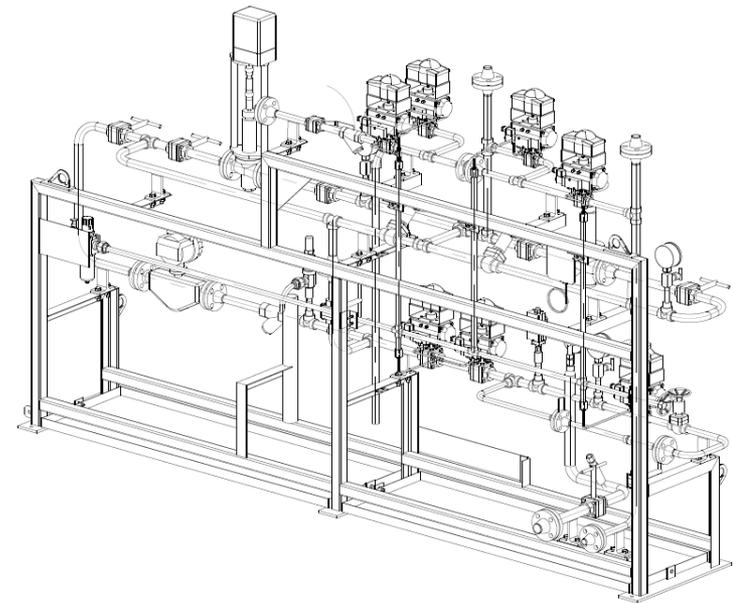
DEPENDENCIA DE LÍNEAS PARA USO EN CHROMATRACE

¿QUE TRAYECTO SEGUIR?

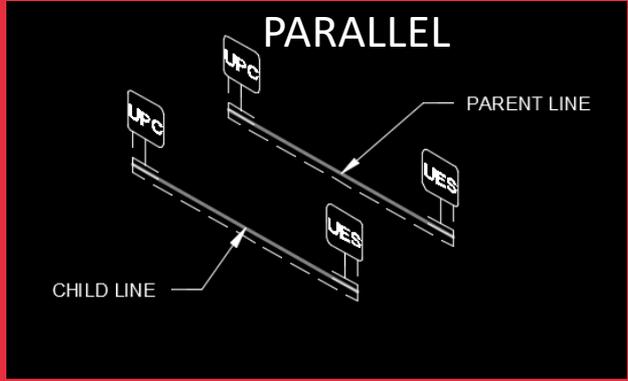
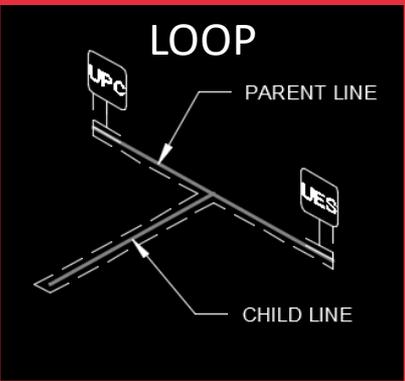
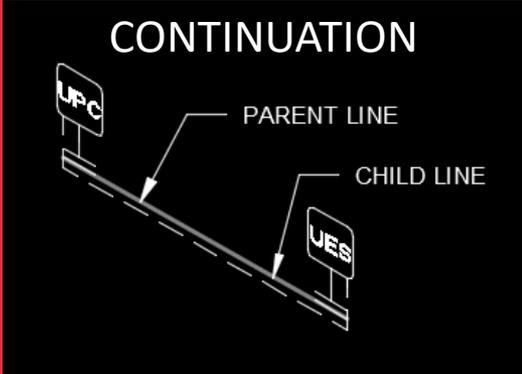
¿BUCLE O DERIVO?

¿AMPERAJE CONSUMIDO?

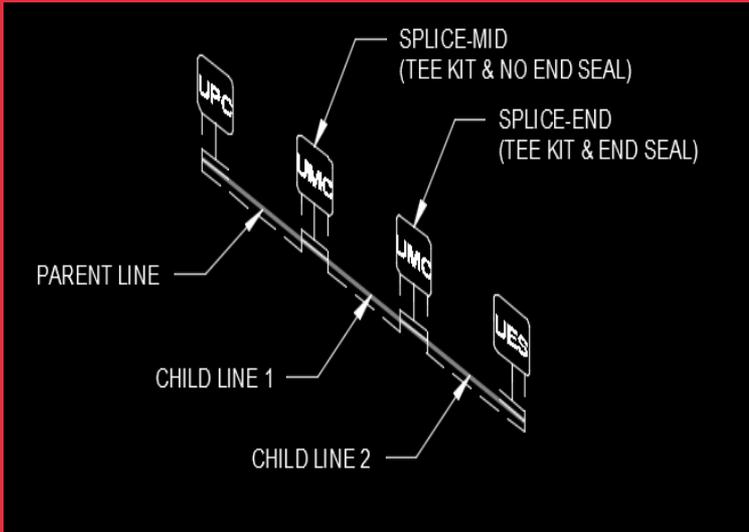
¿NECESITARÉ DIVIDIR EN OTRO CIRCUITO?



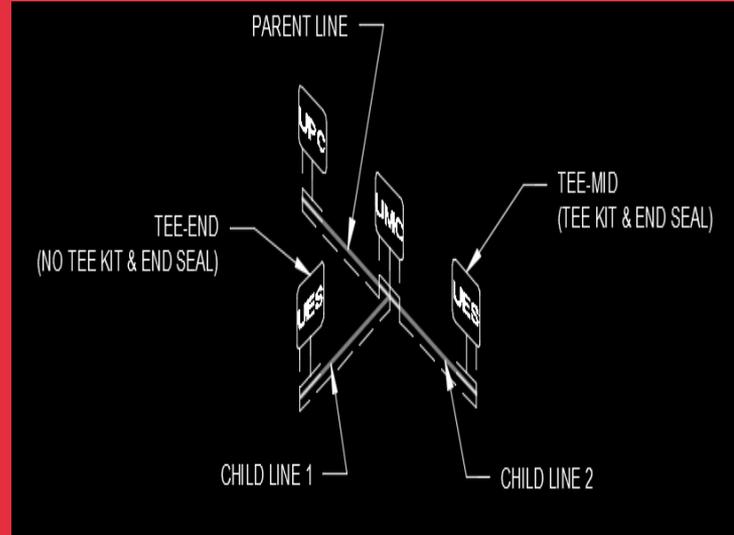
DEPENDENCIA DE LÍNEAS PARA USO EN CHROMATRACE



SPLICE MID & SPLICE END SEGMENT



TEE MID & TEE END SEGMENT



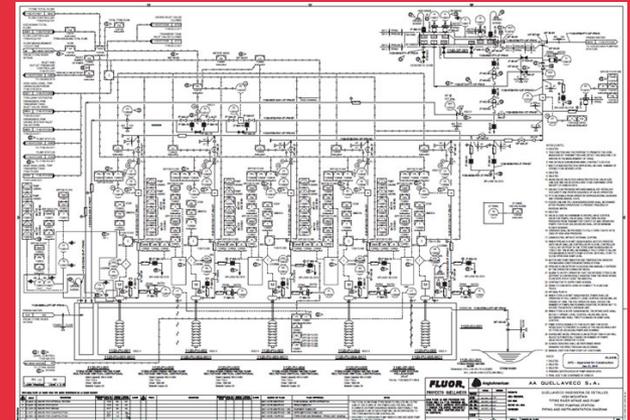
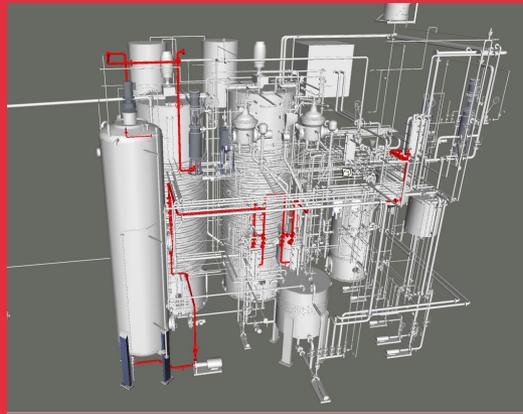
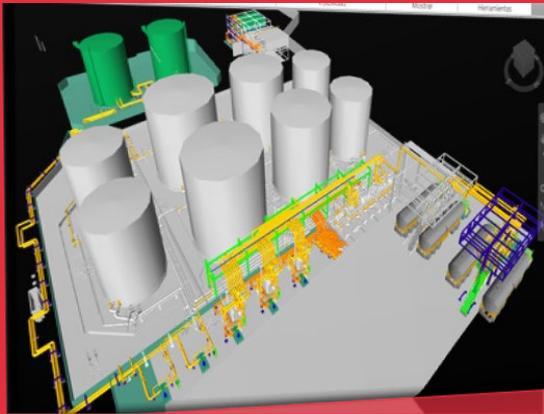
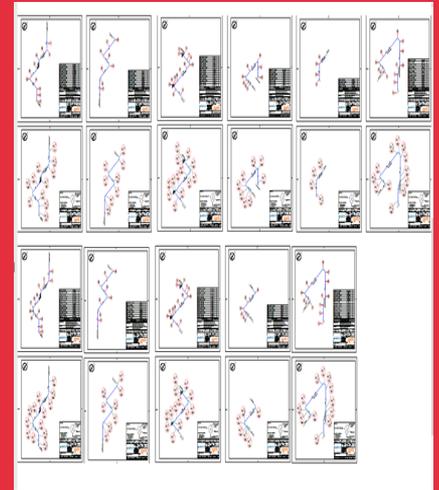
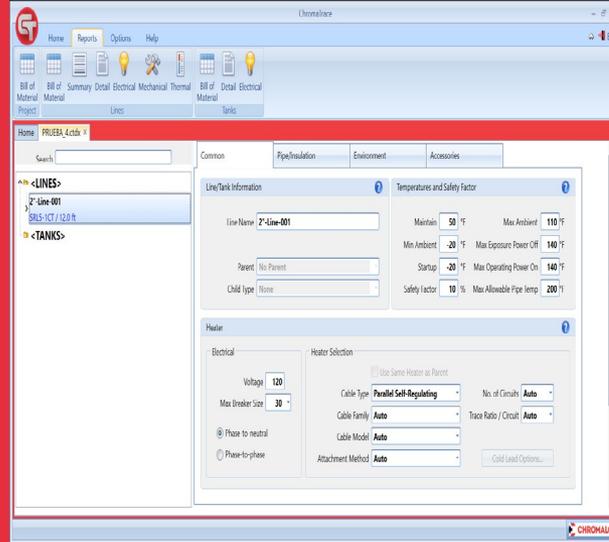
DEPENDENCIA DE LÍNEAS PARA USO EN CHROMATRACE

The screenshot displays the ChromaTrace software interface. The top menu bar includes Home, Reports, Options, and Help. Below it is a ribbon with various icons for file operations (New, Open, Save, Close, Save All, Save As), project management (Project Settings, Import, Export), and editing (Line, Tank, Copy, Paste, Remove, Global Copy, Recalculate All, Expand All, Collapse All, Exit). The main workspace is divided into several panes. On the left, a tree view shows a hierarchy of lines and tanks, with '0.75"-Line-002' selected under '2"-Line-001'. The right pane is titled 'PRUEBA_4.ctdx*' and contains several configuration sections: 'Line/Tank Information' (Line Name: 0.75"-Line-002, Parent: 2"-Line-001, Child Type: Continuation), 'Temperatures and Safety Factor' (Maintain: 50 °F, Max Ambient: 110 °F, Min Ambient: -20 °F, Max Exposure Power Off: 140 °F, Startup: -20 °F, Max Operating Power On: 140 °F, Safety Factor: 10 %, Max Allowable Pipe Temp: 200 °F), 'Heater' (Use Same Heater as Parent), 'Electrical' (Max Breaker S, Phase-to-neutral selected), 'Cable Family' (Auto), 'Cable Model' (Auto), 'Attachment Method' (Auto), 'Parallel Self-Regulating' (dropdown), 'No. of Circuits' (Auto), and 'Trace Ratio / Circuit' (Auto). A dropdown menu is open over the 'Child Type' field, listing options: Continuation (highlighted), Loop, Splice Mid-segment, Splice-End Segment, Tee-Mid segment, Tee-End segment, and Parallel.

PRÓXIMO CURSO VIRTUAL - ZOOM

CHROMATRACE

- Navegación en Chromatrace.
- Obtención de reportes.
- Introducción al Diseño sistemas HT.
- Anidación por dependencia entre líneas.
- Importación de parámetros desde Excel.
- Depuración de fallas.
- Criterios de diseño.
- Ejercicios prácticos guiados.
- Metrados.
- Navegación Navisworks
- Lectura PI&D





CHROMALOX.

Advanced Thermal Technologies.

ELVIS BRAVO
PH: 981248910
ELVIS.BRAVO@CHROMALOX.COM