WALWORTH Since 1842

Industrial de Válvulas, S.A. de C.V.

Industria lte 16 S/N Fracc. Industrial el Trébol de Tepotzotlán, Estado de México, México C.P. 54610

CERTIFICATE OF MATERIALS & TEST REPORT (CMTR)

(CERTIFICADO DE CALIDAD DE MATERIALES Y REPORTE DE PRUEBAS CMTR)

ACCORDING TO EN 10204 TYPE 3.1

No. código Interno *(Product Code Nr.)*: ER080ADE1MRN1BY

No. Serie *(Serial Number)*: 16R2170

Fecha *(Date)*: July 11, 2016

No. De Tag *(Tag Number)*:

Clientes *(Customer)*: TUBOS MONTERREY, S.A. DE C.V.

No Pedido del Cliente *(Customer PO Nr.)*: 22699

Partida *(Customer Item)*: 1 **Pedido Interno No** *(Walworth Sales Nr.)*: D000060038 **Partida** *(Item)*: 51

Linea de producto *(Product line)*:	Cast Iron	Extremos *(Ends)*:	FF	Operación *(Operation)*:	N/A
Tipo de válvula *(Type of valve)*:	Check Type Swing	Cuerpo *(Shell)*:	GRAY IRON	Otros *(Other requirements)*:	
Diámetro *(Nominal diameter)*:	8	Interiores *(Trim)*:	#E1 (BCE)		
Presión clase *(Pressure class)*:	125	Figura No *(Figure Nr.)*:	FIG W928		

COMPOSICION QUIMICA EN % *(CHEMICAL COMPOSITION %)*

Parte (Component)	Material (Material)	Colada (Heat)	% P	% S	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
CUERPO (BODY)	ASTM_A_126_GR_B	C58T	0.057	0.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DISCO 1 (DISC 1)	ASTM_A_126_GR_B	C487	0.032	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TAPA1 (COVER 1)	ASTM_A_126_GR_B	C59D	0.050	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PROPIEDADES MECANICAS *(MECHANICAL TESTING)*

Parte *(Component)*	Colada *(Heat)*	Condición de TT Normalizado & revenido Heat Treatment condition *(Normalized & tempered)*	Cedencia *(Yield strength)* *(Kpsi)*	Tensión *(Tensile strength)* *(Kpsi)*	Alar. En 2" *(Elong. In 2")* *(% min)*	Reduccion de area *(Reduction of area)* *(% min)*	Dureza (Hardness) (Bhn) 1st	Dureza (Hardness) (Bhn) 2nd	Prueba Impacto (Impact Test) (Joules) 1st	2nd	3rd	AVG
CUERPO (BODY)	C58T	NO APLICA NOT APPLICABLE	0.0000	38.7150	0	0	0	0	0	0	0	0
DISCO 1 (DISC 1)	C487	NO APLICA NOT APPLICABLE	0.0000	36.5400	0	0	0	0	0	0	0	0
TAPA 1 (COVER 1)	C59D	NO APLICA NOT APPLICABLE	0.0000	41.7600	0	0	0	0	0	0	0	0

PRUEBAS DE PRESIÓN DE ACUERDO CON MSS SP 71 (PRESSURE TEST IN ACCORDANCE WITH MSS SP 71)

TIPO DE PRUEBA *(Type of test)*	PRESION *(Pressure)* *(Psi)*	TIEMPO *(Duration)* *(min)*	RESULTADO *(Result)*	TIPO DE PRUEBA *(Type of test)*	RESULTADO *(Result)*
HIDROSTATICA DE CASCO *(HYDROSTATIC SHELL)*	350	0.5 min	ACEPTADO (ACCEPTED)		
PRUEBA HIDROSTATICA SELLO 1 *(HIGH PRESSURE CLOSURE SIDE 1)*	200	0.5 min	ACEPTADO (ACCEPTED)		
HIDROSTATICA DE CASCO *(HYDROSTATIC SHELL)*	350	0.5 min	ACEPTADO (ACCEPTED)		
PRUEBA HIDROSTATICA SELLO 1 *(HIGH PRESSURE CLOSURE SIDE 1)*	200	0.5 min	ACEPTADO (ACCEPTED)		

ADMINISTRACIÓN DE CALIDAD WALWORTH® Since 1842

Certificamos que este producto ha sido diseñado, fabricado y probado de acuerdo con nuestro sistema de administración de calidad y con los requisitos establecidos en una o más de las siguientes normas en su última edición. (We hereby certify this product has been designed, manufactured and tested according to our quality management system and requirements stated in one or more of the following standards on their latestedition).

API 599 METAL PLUG VALVES - FLANGED, THREADED AND WELDING
API 591 PROCESS VALVE QUALIFICATION PROCEDURE
API 623 STEEL GLOBE VALVES—FLANGED AND BUTT-WELDING ENDS, BOLTED BONNETS
API624 TYPE TESTING OF FISING STEM VALVES EQUIPPED WITH GRAPHITE PACKING FOR FUGITIVE EMISSIONS
ANSI B16-10 FACE TO FACE AND END TO END DIMENSIONS OF VALVES
ANSI B16-11 FORGED FITTINGS, SOCKET - WELDING AND THREADED
ANSI/NACE MR0175/ISO 15156-1 MATERIALS FOR USE IN H2S-CONTAINING ENVIRONMENTS IN OIL AND GAS PRODUCTION
NACE MR0103 MATERIAL RESISTANT TO SULFIDE STRESS CRACKING IN CORROSIVE PETROLIEUM ENVIROMENT
MSS-SP61 PRESSURE TESTING OF STEEL VALVES

Quality Assurance Department
Yolanda Ponciano Montoya

FAC-24 Rev. Original.