INSPECTION CERTIFICATE

MESSRS	UNIMECH ENGINEERING (M) SDN. BHD.
DELIVER To	
JOB NAME	
JOB No.	
P.O.No.	APO-2004-0010
PRODUCT CODE	

Certificate No.
1020330286-003-01-01

Date : 2020/06/16

KITZ

SPECIFICATION

Manuf No.	1020330286-003
Description	10K DUCTILE IRON LIFT CHECK VALVE SCREWED ENDS
Figure	10SF1
Size	1 inch(B)
Quantity	16
Valve No.	
Item No.	37
Kiki No.	

MAIN PARTS

No.	Name of parts	Material
001	BODY	Gr. 60-40-18
002	CAP	Gr. CA15

TEST

Pressure test	Judge.	Inspection fluid and pressure		
Shell	Good	Hydro	2.1	MPa
	Good	Air	1.4	MPa
Seat		Hydro	-	
	Good	Air	0.6	MPa
Back seat		Hydro	-	
		Air	-	

Item	Judge.	Attached sheet
Material	Good	Material Test Result
Dimension	Good	
Visual	Good	
Operation	Good	

NONDESTRUCTIVE EXAMINATION

Type of examination and judgement	Attached sheet

REMARKS

REPRESENTATIVE TEST BY HYDRAULIC SHELL TEST HAS BEEN PERFORMED

R. Miyazawa

Witnessed by

KITZ CORPORATION
QC Manager

We hereby certify that the articles listed above are satisfactory in accordance with the requirements of the standard and purchase order.

MATERIAL TEST RESULT

MESSRS	UNIMECH ENGINEERING (M) SDN. BHD.
JOB NAME	
JOB No.	
P.O.No.	APO-2004-0010
PRODUCT CODE	

Certificate No.
1020330286-003-01-01-Z1

Date : 2020/06/16

KITZ

Figure	10SF1	Valve No.	
	Material ASTM A 395 Gr. 60-40-18	Item No.	37

№	Charge No.	Display No.	Name of Parts
1	139		BODY
2			
3			
4			

CHEMICAL COMPOSITION %

Element	C	Si	P	Mn													
Spec. / №	Min 3.00	*Max 2.50	Max 0.080														
1	3.62	2.66	0.018	0.28													
2																	
3																	
4																	

Element						
Spec. / №						
1						
2						
3						
4						

TENSION TEST **IMPACT TEST**

Item			Tensile str.	Yield str.	Elongation					
Unit			MPa	MPa	%					
Spec. / №			Min 415	Min 275	Min 18					
1			425	281	21					
2										
3										
4										

Item	Hardness	Microstructure								
Unit	HB	%								
Spec. / №	143 187	Min 90								
1	143	90								
2										
3										
4										

HEAT TREATMENT °C

№	Spec.		
1			
2			
3			
4			

N:Normalizing A:Annealing T:Tempering Q:Quenching AC:Air Cooling
WQ:Water Quenching OQ:Oil Quenching WC:Water Cooling FC:Furnace Cooling ST:Solution Treatment

REMARKS

* Every 0.01% P reduction enables 0.08% Si increase each within the maximum 2.75%.
EN10204 Type 2.2

R. Miyazawa

Reviewed by

KITZ CORPORATION
QC Manager

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MATERIAL TEST RESULT

MESSRS	UNIMECH ENGINEERING (M) SDN. BHD.
JOB NAME	
JOB No.	
P.O.No.	APO-2004-0010
PRODUCT CODE	

Certificate No.
1020330286-003-01-01-Z2

Date : 2020/06/16

KITZ

Figure	10SF1	Valve No.	
	Material ASTM A 217 Gr. CA15	Item No.	37

№	Charge No.	Display No.	Name of Parts
1	00210AA12		CAP
2			
3			
4			

CHEMICAL COMPOSITION %

Element / Spec. / №	C	Mn	P	S	Si	Ni	Cr	Mo									
Spec.	Max 0.15	Max 1.00	Max 0.040	Max 0.025	Max 1.50	Max 1.00	11.5 14.0	Max 0.50									
1	0.12	0.82	0.012	0.009	1.25	0.10	12.6	0.00									
2																	
3																	
4																	

Element / Spec. / №						
1						
2						
3						
4						

TENSION TEST **IMPACT TEST**

Item			Tensile str.	Yield str.	Elongation	Reduction				
Unit			MPa	MPa	%	%				
Spec. / №			620 795	Min 450	Min 18	Min 30				
1			782	608	23	49				
2										
3										
4										

Item										
Unit										
Spec. / №										
1										
2										
3										
4										

HEAT TREATMENT °C

№	Spec.	
1	980°C Oil Quenching , 700°C Air Quenching	
2		
3		
4		

N:Normalizing A:Annealing T:Tempering Q:Quenching AC:Air Cooling
WQ:Water Quenching OQ:Oil Quenching WC:Water Cooling FC:Furnace Cooling ST:Solution Treatment

REMARKS

EN10204 Type 2.2

R. Miyazawa

Reviewed by

KITZ CORPORATION
QC Manager

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