



# MATERIAL TEST RESULT

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

Certificate No.  
1020330282-022-01-01-Z1

Date : 2020/06/04



Figure	150SPB2	Valve No.	
	Material ASTM A 395 Gr. 60-40-18	Item No.	22
	Charge No.	Display No.	Name of Parts
1	138		BODY
2	13F		BONNET
3			
4			

**CHEMICAL COMPOSITION %**

Element	C	Si	P	Mn											
Spec.	Min 3.00	*Max 2.50	Max 0.080												
1	3.61	2.59	0.021	0.26											
2	3.61	2.60	0.019	0.29											
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			430	281	21				
2			430	282	21				
3									
4									

Item	Hardness	Microstructure							
Unit	HB	%							
Spec.	143 187	Min 90							
1	143	90							
2	143	90							
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

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 Reviewed by

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 QC Manager