

INSPECTION CERTIFICATE

Contract No.	5BYM1201	Sheet No.	KE19302-T0033-0	Reference No.	8A80SRDO	WP
Shipper	METAL ONE CORPORATION			Section Code	077-WSG	
Order No.	NSK1218WROD			Customer No.		
Customer	NSK-AKS					
Commodity	BEARING STEEL WIRE ROD					
Specification	SUJ2					
Delivery Condition	ANNEALED ROD					
Size	MM	8.9 R				

Item	Unit	Spec.		Results
		Min.	Max.	
Heat No.				8A2057
Lot No.				611522
Product Details				
NUMBER OF COILS	ACTUAL			8
MASS	KG			7,766
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GRAND TOTAL :COILS				8
MASS	KG			7,766
Chemical Composition				
C	% X100	95	110	100
SI	% X100	18	35	25
MN	% X100	25	45	31
P	% X1000		20	7
S	% X1000		8	3
CU	% X100		15	1
NI	% X100		20	1
CR	% X100	130	160	151
MO	% X100		8	1
AL	% X1000		50	17
O	% X10000		9	4
TI	% X10000		30	6
Body Hardness Test				
HRB			92	
MIN.				89
MAX.				90
Non Metallic Inclusions Test				
ASTM AT			2.0	1.0
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.5
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
THE SPECIFICATION OF THE PRODUCT IS BASED ON THE MUTUAL AGREEMENT BETWEEN CUSTOMER AND SUPPLIER				
MS52018,RS52002				
CASTER NO.				

Surveyor

We hereby certify that the material herein described has been manufactured in accordance with the standards and specification specified by you that it satisfies the requirement.

Takeshi Tsuji
 TAKESHI TSUJII
 Manager of Quality System Section
 KOBE WORKS





INSPECTION CERTIFICATE

KOBE STEEL, LTD.
KOBE WORKS
 2, Nadahama Higashimachi,
 Nada-ku, Kobe-city, Japan

Date of Issue 2019-03-02 P.01/01-06

Contract No.	5BYM1204	Sheet No.	KE19302-T0034-0	Reference No.	8A80SRDO	WP
Shipper	METAL ONE CORPORATION			Section Code	077-WSG	
Order No.	NSK1218WROD			Customer No.		
Customer	NSK-AKS					
Commodity	BEARING STEEL WIRE ROD					
Specification	SUJ2					
Delivery Condition	ANNEALED ROD					
Size	MM	8.9 R				

Item	Unit	Spec.		Results
		Min.	Max.	
Heat No.				8B7093
Lot No.				612352
Product Details				
NUMBER OF COILS	ACTUAL			4
MASS	KG			3,370
-----	-----			-----
GRAND TOTAL :COILS	KG			4
MASS				3,370
Chemical Composition				
C	% X100	95	110	101
SI	% X100	18	35	25
MN	% X100	25	45	31
P	% X1000		20	12
S	% X10000		8	3
CU	% X100		15	1
NI	% X100		20	2
CR	% X100	130	160	150
MO	% X100		8	8
AL	% X10000		50	TR.
O	% X100000		9	20
TI	% X100000		30	4
				TR.
Body Hardness Test				
HRB			92	
MIN.				89
MAX.				89
Non Metallic Inclusions Test				
ASTM AT			2.0	1.0
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.0
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
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 Date of Issue 2019-05-08 P.01/01-06

Contract No.	5B4M3301	Sheet No.	KE19508-TO145-O	Reference No.	8B80SR40	WP
Shipper	METAL ONE CORPORATION			Section Code	077-WSG	
Order No.	NSK0419WROD			Customer No.		
Customer	NSK-AKS					
Commodity	BEARING STEEL WIRE ROD					
Specification	SUJ2					
Delivery Condition	ANNEALED ROD					
Size	MM	8.9 R				

Item	Unit	Spec.		Results
		M.in.	Max.	
Heat No.				9A3243
Lot No.				622524
Product Details				
NUMBER OF COILS	ACTUAL			8
MASS	KG			7,775

GRAND TOTAL :COILS				8
MASS	KG			7,775
Chemical Composition				
C	% X100	95	110	101
SI	% X100	18	35	25
MN	% X100	25	45	32
P	% X1000		20	13
S	% X1000		8	4
CU	% X100		15	1
NI	% X100		20	2
CR	% X100	130	160	151
MO	% X100		8	TR.
AL	% X10000		50	21
D	% X100000		9	4
TI	% X100000		30	4
Body Hardness Test				
HRB			92	
MIN.				89
MAX.				90
Non Metallic Inclusions Test				
ASTM AT			2.0	0.5
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.5
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
THE SPECIFICATION OF THE PRODUCT IS BASED ON THE MUTUAL AGREEMENT BETWEEN CUSTOMER AND SUPPLIER MS52018, RS52002 CASTER NO.				

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Katsuya Takaoaka
 KATSUYA TAKAOKA
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Contract No.	5B4M3303	Sheet No.	KE19508-T0147-0	Reference No.	8B8OSR40
Shipper	METAL ONE CORPORATION			Section Code	077-WSG
Order No.	NSKO419WROD			Customer No.	
Customer	NSK-AKS				
Commodity	BEARING STEEL WIRE ROD				
Specification	SUJ2				
Delivery Condition	ANNEALED ROD				
Size	MM	9.5 R			

Item	Unit	Spec.		Results
		Min.	Max.	
Heat No.				9A3243
Lot No.				622277
Product Details				
NUMBER OF COILS	ACTUAL			8
MASS	KG			7,979
-----				-----
GRAND TOTAL :COILS				8
MASS	KG			7,979
Chemical Composition				
C	% X100	95	110	101
SI	% X100	18	35	25
MN	% X100	25	45	32
P	% X1000		20	13
S	% X1000		8	4
CU	% X100		15	1
NI	% X100		20	2
CR	% X100	130	160	151
MO	% X100		8	TR.
AL	% X1000		50	21
O	% X10000		9	4
TI	% X10000		30	4
Body Hardness Test				
HRB			92	
MIN.				90
MAX.				92
Non Metallic Inclusions Test				
ASTM AT			2.0	0.5
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.5
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
THE SPECIFICATION OF THE PRODUCT IS BASED ON THE MUTUAL AGREEMENT BETWEEN CUSTOMER AND SUPPLIER MS52018, RS52002 CASTER NO.				

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Katsuya Takaoka
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Contract No.	5B4M3304	Sheet No.	KE19508-T0148-O	Reference No.	8BBOSR40	WP
Shipper	METAL ONE CORPORATION			Section Code	077-WSG	
Order No.	NSK0419WROD			Customer No.		
Customer	NSK-AKS					
Commodity	BEARING STEEL WIRE ROD					
Specification	SUJ2					
Delivery Condition	ANNEALED ROD					
Size	MM	9.5 R				

Item	Unit	Spec.		Results
		Min.	Max.	
Heat No.				9A3243
Lot No.				622278
Product Details				
NUMBER OF COILS	ACTUAL			8
MASS	KG			8,034
-----	-----			-----
GRAND TOTAL :COILS				8
MASS	KG			8,034
Chemical Composition				
C	% X100	95	110	101
SI	% X100	18	35	25
MN	% X100	25	45	32
P	% X1000		20	13
S	% X1000		8	4
CU	% X100		15	1
NI	% X100		20	2
CR	% X100	130	160	151
MO	% X100		8	TR.
AL	% X1000		50	21
O	% X10000		9	4
TI	% X10000		30	4
Body Hardness Test				
HRB			92	
MIN.				90
MAX.				92
Non Metallic Inclusions Test				
ASTM AT			2.0	0.5
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.5
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
THE SPECIFICATION OF THE PRODUCT IS BASED ON THE MUTUAL AGREEMENT BETWEEN CUSTOMER AND SUPPLIER MS52018, RS52002 CASTER NO.				

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Date of Issue 2019-04-02 P.01/01-06

INSPECTION CERTIFICATE

Contract No.	5B3M3004	Sheet No.	KE19402-T0082-0	Reference No.	8B80SR30	WP
Shipper	METAL ONE CORPORATION			Section Code	077-WSG	
Order No.	NSK0319WROD			Customer No.		
Customer	NSK-AKS					
Commodity	BEARING STEEL WIRE ROD					
Specification	SUJ2					
Delivery Condition	ANNEALED ROD					
Size	MM	9.5 R				

Item	Unit	Spec.		Results
		Min.	Max.	
Heat No.				8B7993
Lot No.				621331
Product Details				
NUMBER OF COILS	ACTUAL			8
MASS	KG			8,182
-----	-----	-----	-----	-----
GRAND TOTAL :COILS	KG			8
MASS				8,182
Chemical Composition				
C	% X100	95	110	101
SI	% X100	18	35	24
MN	% X100	25	45	34
P	% X1000		20	18
S	% X1000		8	4
CU	% X100		15	1
NI	% X100		20	2
CR	% X100	130	160	151
MO	% X100		8	TR.
AL	% X1000		50	17
O	% X10000		9	4
TI	% X10000		30	TR.
Body Hardness Test				
HRB			92	
MIN.				89
MAX.				89
Non Metallic Inclusions Test				
ASTM AT			2.0	0.5
AH			1.5	0.0
BT			1.5	0.0
BH			1.0	0.0
CT			0.5	0.0
CH			0.5	0.0
DT			1.0	0.5
DH			1.0	0.0
Decarburization Test				
DM-T	MM		0.12	
MIN.				0.02
MAX.				0.02
Micro Structure Test				GOOD
Macro Structure Test				GOOD
Ultrasonic Test				GOOD
Visual & Dimensional Inspection				GOOD
Surface Quality				GOOD
SPARK TEST				GOOD
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 Katsuya Takahara
 