

**ARC M HIGH PERFORMANCE SERIES  
COMPARATIVE DATA**

**M55W-65W SERIES**

HOW WE MEASURE UP AGAINST THE COMPETITION



**M A K E W O R K**  
L I F E E A S I E R

# Arc M5W Series

## Range and Rating



**M5W** - Ideal for heavy duty 1.2mm high deposition and pulse applications with all wire types

| Technical Data IEC/EN 60974-7    |              | ARC M5W        |       |  |
|----------------------------------|--------------|----------------|-------|--|
| Cooling Method                   |              | Liquid-Cooled  |       |  |
|                                  |              | Max.A          | Pulse | Max.Load   |
| Rating: CO <sub>2</sub>          | 1600W        | 560A           |       | 24kw   |
|                                  | 1200W        | 540A           |       | 22kw   |
|                                  | 1000W        | 510A           |       | 20kw   |
| Rating: Mixed Gas M21            | 1600W        | 540A           | 380A  | 22kw   |
|                                  | 1200W        | 520A           | 350A  | 21kw   |
|                                  | 1000W        | 500A           | 340A  | 19.5kw   |
| Duty Cycle                       |              | 100%           | 100%  |  |
|                                  | Filler Wires | Fe, Fe-MC / FC |       | 0.9-1.6mm  |
| Wire Size                        | Filler Wires | Ss, Ss-MC / FC |       | 0.9-1.6mm  |
|                                  | Filler Wires | Al             |       | 1.0-1.6mm  |
| Minimum Liquid Flow Rate         |              | 1.5 l/min      |       | <b>Important</b><br>Please note minimum inlet pressure and flow rate. Low pressure will affect torch performance |
| Minimum Liquid Inlet Pressure    |              | 2.5 Bar        |       |  |
| Maximum Liquid Inlet Pressure    |              | 5.0 Bar        |       |  |
| Maximum Liquid Inlet Temperature |              | 50°C           |       |  |
| Operating Temperature Range      |              | -10...+40°C    |       |  |



# Arc M55W / M65W / S

## Range and Rating



**M55W** - Ideal for all high deposition applications with high reflected heat  
**M65W** - One Model - Optimized all wire types

| Technical Data IEC/EN 60974-7    |              | ARC M55W / M65W / M65WS |   |           |
|----------------------------------|--------------|-------------------------|---|-----------|
| Cooling Method                   |              | Liquid-Cooled           |   |           |
|                                  |              | Max.A                   | Pulse   | Max.Load  |
| Rating: CO <sub>2</sub>          | 1600W        | 580A                    |   | 25kw      |
|                                  | 1200W        | 550A                    |   | 23kw      |
|                                  | 1000W        | 520A                    |   | 21kw      |
| Rating: Mixed Gas M21            | 1600W        | 560A                    | 400A  | 22kw      |
|                                  | 1200W        | 530A                    | 360A  | 21.5kw    |
|                                  | 1000W        | 510A                    | 350A  | 20kw      |
| Duty Cycle                       |              | 100%                    | 100%  |           |
|                                  | Filler Wires | Fe, Fe-MC / FC          |   | 0.9-2.0mm |
| Wire Size                        | Filler Wires | Ss, Ss-MC / FC          |   | 0.9-1.6mm |
|                                  | Filler Wires | Al                      |   | 1.0-2.0mm |
| Minimum Liquid Flow Rate         |              | 1.5 l/min               | <b>Important</b><br>Please note minimum inlet pressure and flow rate.<br>Low pressure will affect torch performance |           |
| Minimum Liquid Inlet Pressure    |              | 2.5 Bar                 |   |           |
| Maximum Liquid Inlet Pressure    |              | 5.0 Bar                 |   |           |
| Maximum Liquid Inlet Temperature |              | 50°C                    |   |           |
| Operating Temperature Range      |              | -10...+40°C             |   |           |



# TORCH PERFORMANCE AND DUTY CYCLE STUDIES



MAKE WORK  
LIFE EASIER



# PERFORMANCE ANALYSIS

## Critical Temperature Readings

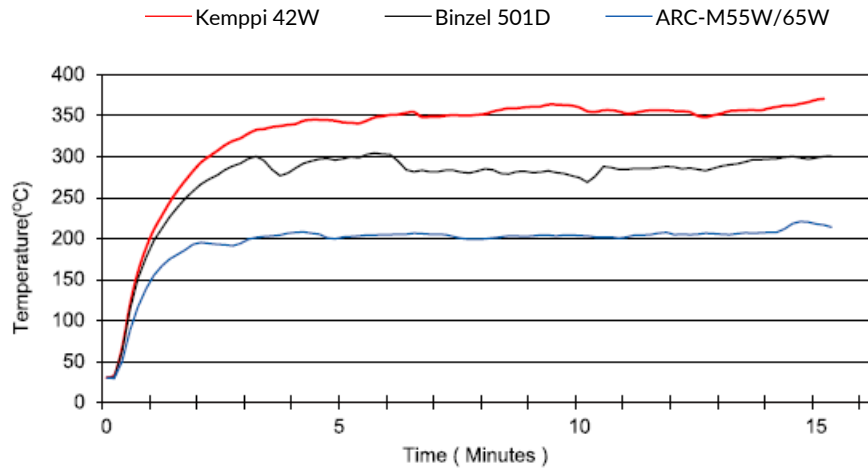


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### TEST PARAMETERS:

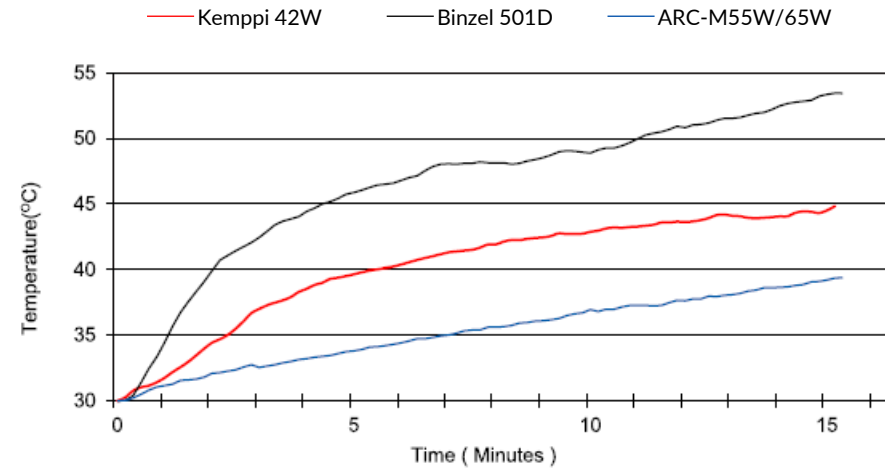
Welding Current: 300A Pulse    Welding Voltage: 27V  
Power: 7.1KW    Welding Wire: 1.2mm AlMg5  
Shielding Gas: Argon    Gas Flow: 18 l/min

#### Thermal rise on nozzle



75% Cooler Running Nozzles

#### Thermal rise on swan neck rear



35% Cooler Running Swan Necks

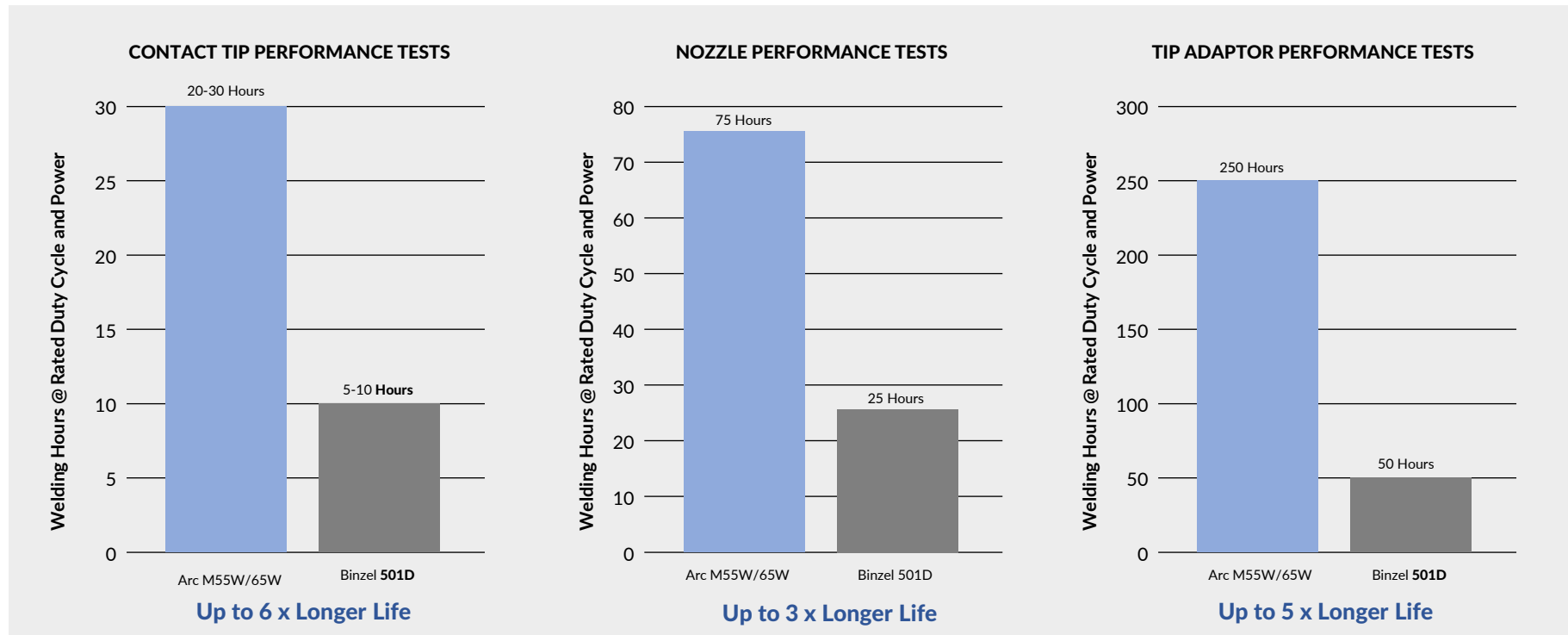
### Cooler Running Torches and Components

# PERFORMANCE TESTS

## Wear Parts Durability



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Note: Like for Like Test Basis

### Longer Lasting Wear Parts

# DURABILITY TESTS

## Swan Neck Impact



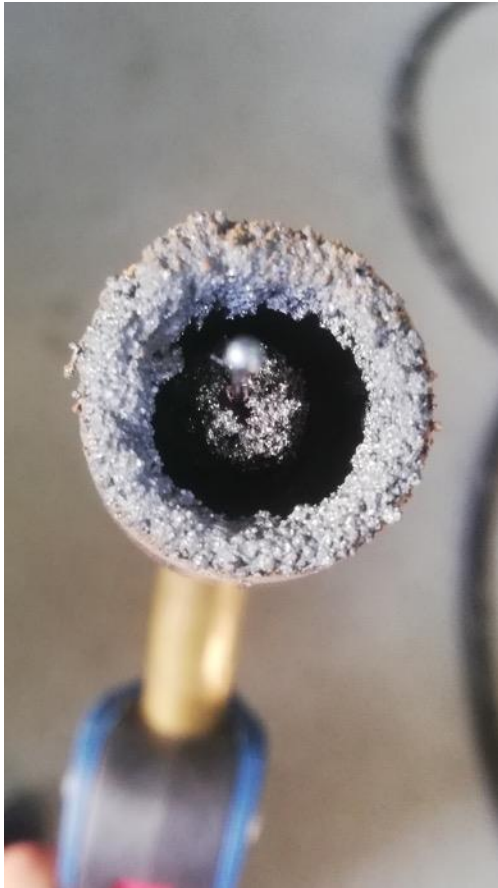
**Armoured Swan Necks are Better in Tough Environments**

Note: Like for Like Test Basis

# SPATTER BUILD UP TESTS

## Nozzles

Binzel 501D Front View



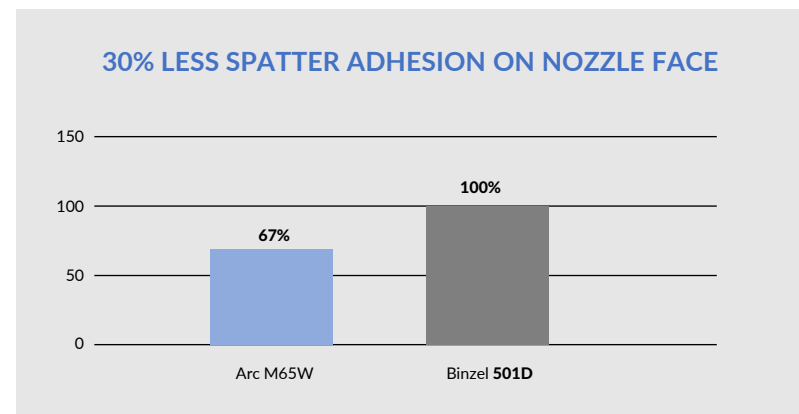
M55W/65W



### Test Parameters

|                  |   |
|------------------|---|
| Welding Current  | 235A                                      |
| Welding Wire     | ER70S-6 1.0mm                             |
| Shielding Gas:   | Mixed Gas, Argon 80%, CO <sub>2</sub> 20% |
| Welding Voltage: | 31V                                       |

### % MORE WEIGHT THAN M55W/65W



Note: Like for Like Test Basis

**Less Maintenance and Downtime**



# SPATTER BUILD UP TEST

## Contact Tips

Binzel 501D Side View



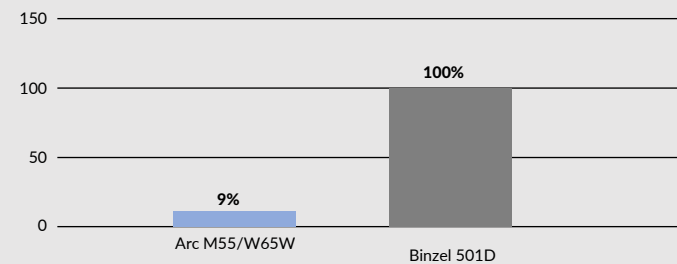
M55W/65W Side View



### Test Parameters

|                  |   |
|------------------|---|
| Welding Current  | 235A                                      |
| Welding Wire     | ER70S-6 1.0mm                             |
| Shielding Gas:   | Mixed Gas, Argon 80%, CO <sub>2</sub> 20% |
| Welding Voltage: | 31V                                       |

### 90% LESS SPATTER ADHESION ON TIP FACE



Note: Like for Like Test Basis

**Less Downtime and Longer Lasting Parts**

# SPATTER BUILD UP TESTS

## Nozzle Removal



## SIC TECHNOLOGY

Spatter deposits collected in a "well" break free when the nozzle is released



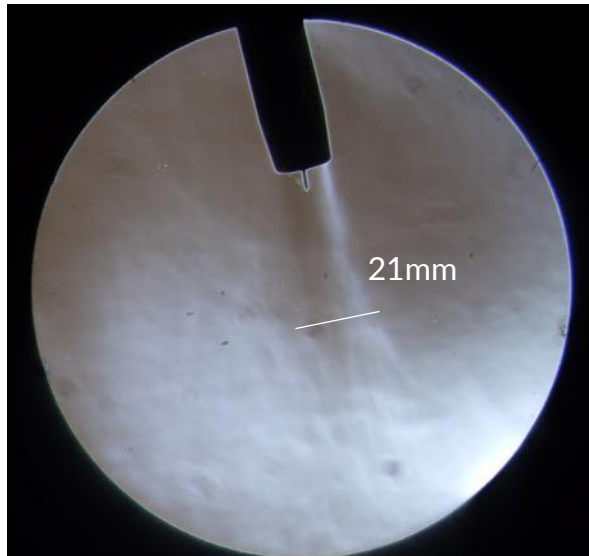
Insert New Video

**No Sticking Nozzles Due to Spatter Deposits**

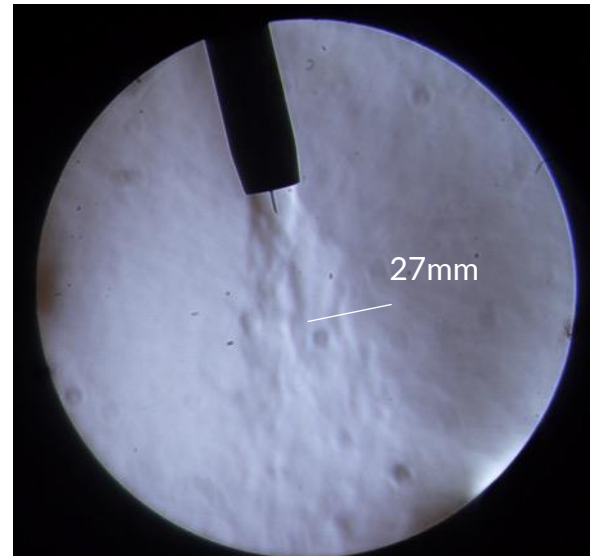
# GAS FLOW ANALYSIS TESTS

## Laminar Flow

Arc M55W/M65W



Binzel 501D



Edit Video Conteur

 [PLAY](#)

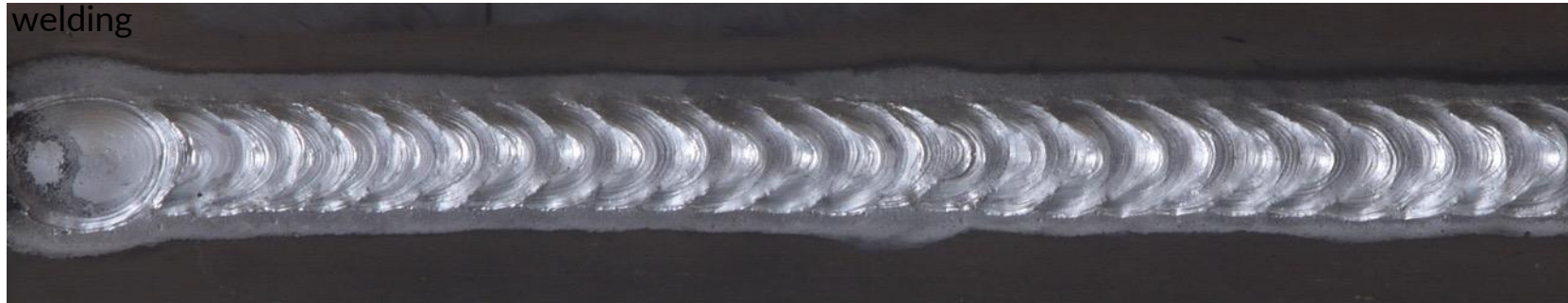
**Brighter Weld Seams and Less Post Arc Processing**

Note: Like for Like Test Basis

## OSW ALUMINIUM WELDING TESTS Weld Seam Monitoring

M55W/M65W, 200A Pulse 25V, Horizontal

welding



Clean and bright surface

Binzel 501D 200A Pulse 25V, Horizontal welding



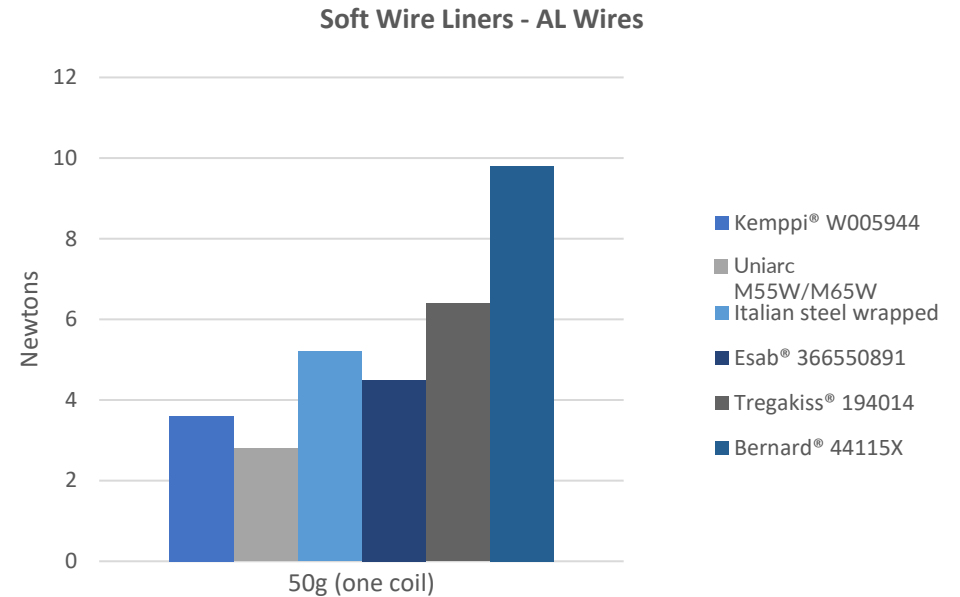
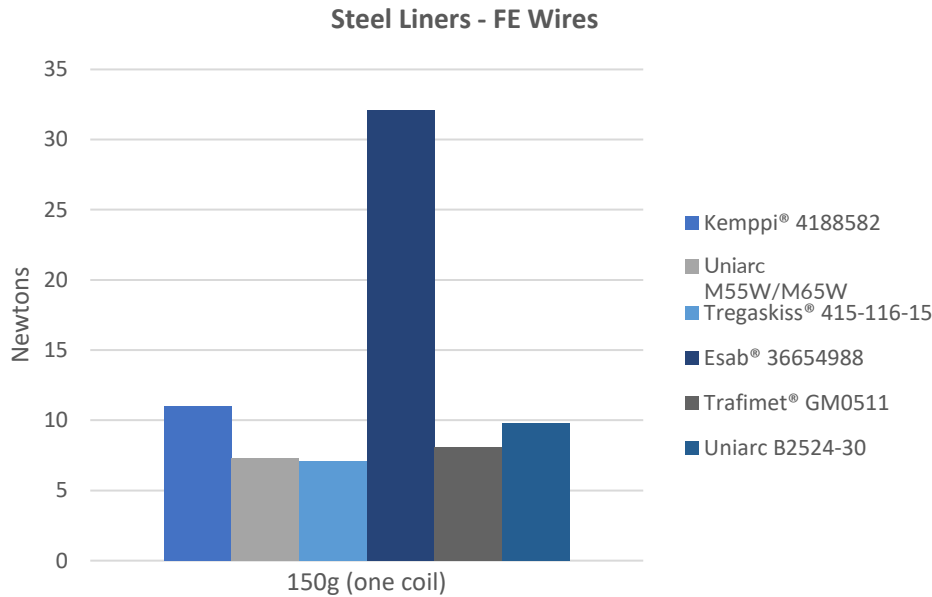
Light Contamination on Welding Bead Surface

**Better Weld Quality From Improved Wire Feed and Gas Coverage**

Note: Like for Like Test Basis

# LINER FRICTION TESTS

## Electrode Resistance Measurement



**Smoother Wire Feed for Better Arc Characteristics**

ARC M HIGH PERFORMANCE SERIES

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