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| Traveler Title | Brazement Adapter Assembly Receiving Inspection Traveler | | | |
| Traveler Abstract | This is a receiving inspection traveler for RF window adapter assemblies involving visual, dimensional, RF, and leak test. | | | |
| Traveler ID | P1-INSP-ADPT | | | |
| Traveler Revision | R1 | | | |
| Traveler Author | S. Williams | | | |
| Traveler Date | 06-Aug-2020 | | | |
| NCR Informative Emails | georged,forehand | | | |
| NCR Dispositioners | scott,macha,edaly | | | |
| D3 Emails | scott,georged,macha | | | |
| Approval Names | S. Williams | K. Macha |  | 1. Reilly |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Reviewer | Reviewer | Project Manager |

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| References | List and Hyperlink all documents related to this traveler. This includes, but is not limited to: safety (THAs, SOPs, etc), drawings, procedures, and facility related documents. | | | |
|  | [CRM-120-7075-0024 B](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-61163/crm1207075-0024%5b1%5d%5b1%5d.pdf) | [Leak spec 11141S0029](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-61164/JLAB_SPEC_11141S0029_Rev%20A%5b1%5d%5b1%5d.pdf) | [Drawing-window coating CRM-120-7075-0039](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-61165/crm1207075-0039%5b1%5d%5b2%5d.pdf) |  |
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| Revision Note |  |
| R1 | Initial release of this Traveler. |

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| Step No. | Instructions | Data Input |
| 1 | This is an ultra high vacuum component. Wear talc free latex gloves at all times when handling this part.   * Enter inspector name and date. | [[TechnicianName]] <<SRF>>  [[DateTime]] <<TIMESTAMP>> |
| 2 | * Inspect shipping container and shipping documents. * Is container damaged? If there is a sign of damage take pictures and upload file. * Is shipping document matching with shipped parts (quantity, part number, etc)? If there is a discrepancy provide details in comment box. | [[ContainerDamaged]] <<YESNO>>  [[ContainerPics]] <<FILEUPLOAD>>  [[ShipDocOK]] <<YESNO>>  [[ShipDocDetail]] <<COMMENT>> |
| 3 | Visual inspection   * Is the assembly free from the brazing residue? * Is ceramic surface clean, free from scratches, cracks or stain? * If it shows any defect provide pictures and comments. | [[WBASN]] <<WBASN>>  [[VisualClean]] <<YESNO>>  [[VisualCeramic]] <<YESNO>>  [[VisualPics]] <<FILEUPLOAD>>  [[VisualComment]]<<COMMENT>> |

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| **Step No** | **Instructions** | | | **Data Inputs** | |
| 4 | Copper eyelet and Stainless steel adapter gap  C--UGS-scratch-MyModel_0062.tif  Use the gap checking tool and sweep around the copper eyelet gap. If the brazing residue blocks the sweeping stop further inspection and generate NCR. | | | [[SweepPass]] <<YESNO>> | |
| 5 | Dimensional check (CMM) | | | | |
| Description | Specified Dimensions  Min/Max | Measured Dimensions | | Pass/Fail |
| Envelope dimensions | Width  1.709/1.719 | [[Dim\_width]] <<FLOAT>>  [[Dim\_length]] <<FLOAT>>  [[Dim\_thk]] <<FLOAT>>  [[Dim\_radius1]] <<FLOAT>>  [[Dim\_radius2]] <<FLOAT>>  [[Dim\_radius3]] <<FLOAT>>  [[Dim\_radius4]] <<FLOAT>> | | [[Compare the measured value to the specified value and show pass or fail- if it’s outside of the range it fails]] <<NOTE>>  [[Dim\_widthPassed]] <<YESNO>>  [[Dim\_lengthPassed]] <<YESNO>>  [[Dim\_thkPassed]] <<YESNO>>  [[Dim\_radius1Passed]] <<YESNO>>  [[Dim\_radius2Passed]] <<YESNO>>  [[Dim\_radius3Passed]] <<YESNO>>  [[Dim\_radius4Passed]] <<YESNO>> |
| Length  5.525/5.535 |
| Thickness  .620/.630 |
| Measure radii of all 4 corners  R.683/.693 |
| Adapter opening  Measure 3 different locations as shown. | .981/.991 | [[Dim\_opening\_1]] <<FLOAT>>  [[Dim\_opening\_2]] <<FLOAT>>  [[Dim\_opening\_3]] <<FLOAT>> | | [[Dim\_opening\_1Passed]] <<YESNO>>  [[Dim\_opening\_2Passed]] <<YESNO>>  [[Dim\_opening\_3Passed]] <<YESNO>> |
| Ceramic window thickness  Measure 3 different locations on centerline as indicated in the picture.  C--UGS-scratch-MyModel_0066.tif | .0948/.0968 | [[Dim\_CerThk\_1]] <<FLOAT>>  [[Dim\_CerThk\_2]] <<FLOAT>>  [[Dim\_CerThk\_3]] <<FLOAT>> | | [[Dim\_CerThk\_1Passed]] <<YESNO>>  [[Dim\_CerThk\_2Passed]] <<YESNO>>  [[Dim\_Cer\_Thk\_2]] <<YESNO>> |

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| **Step No** | **Instructions** | **Data Inputs** |
| 6 | Initial leak test  Minimum Detectable Leak 1×10^-10 atm.cc/sec He | [[InitialLeakTechName]] <<SRF>>  [[InitialLeakPass]] <<YESNO>>  [[InitialLeakFile]] <<FILEUPLOAD>> |
| 7 | RF Test   * Inspect the set-up and perform RF survey. * Follow the F100 window power ramp up. * Maintain the max power 12kW until the ceramic temperature has stabilized at its maximum (Temperature increase should be less than 1 degree C per hour). * Observe and record the thermal activity at the window using IR camera. * Record the window flange temperature using the thermocouple output signals. * At the end of the test, turn off RF. * Allow time for window and waveguide to cool before removing window from waveguide. * If the RF test at this step is omitted provide the reason. | [[RF\_TechName]] <<SRF>>  [[RF1\_Time]] <<TIMESTAMP>>  [[UploadRF\_File]] <<FILEUPLOAD>>  [[RF\_TestComment]] <<COMMENT>> |
| 8 | Final leak test  Minimum Detectable Leak 1×10^-10 atm.cc/sec He   * Enter technician name, test date and upload file. | [[FinalLeakTechName]] <<SRF>>  [[FinalLeakTime]] <<TIMESTAMP>>  [[FinalLeakPass]] <<YESNO>>  [[FinalLeakFile]] <<FILEUPLOAD>> |
| 9 | * Package window adapter to ship to the ion implantation vendor, Cutting Edge Ions, LLC. * Enter the technician name. * Enter date of shipment. | [[ShipIonTechName]] <<SRF>>  [[ShipIonDate]] <<TIMESTAMP>> |
| 10 | This traveler resumes when the adapter returns from the ion implantation vendor. Wear nitrile gloves at all times when handling this part.   * Enter technician name and date. * Inspect the shipping container from the ion implantor. Is the container free from damage? | [[TiTechName]] <<SRF>>  [[TiDate]] <<TIMESTAMP>>  [[TiContainerOK]] <<YESNO>> |
| 11 | * Has the ion implantation been performed on the brazement? * Inspect if the correct side was ion implanted. Ion implanted surface shows yellow tint.   implant side.JPG   * Provide comment if the brazement shows any abnormality. * Contact the responsible engineer for next step. | [[TiVisPass]] <<YESNO>>  [[TiComment]] <<COMMENT>> |

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| **Step No** | **Instructions** | **Data Inputs** |
| 12 | Is this brazement sampled for RF test?   * If yes, perform the initial leak check per spec 11141S0029. Minimum Detectable Leak 1×10^-10 atm.cc/sec He. If not, re-pack it for shipping to the anti-multipacting coating vendor and go to the step 4. * Enter leak check technician name and time of the test. | [[Ti\_RF\_smpl]] <<YESNO>>  [[Ti\_ILeak\_Tech]] <<SRF>>  [[Ti\_ILeak\_Date]] <<TIMESTAMP>> |
| Did the brazement pass the leak check?   * If the brazement did not pass the leak check, generate NCR. Forward the passed brazement to the RF test personnel. | [[Ti\_ILeak\_Pass]] <<YESNO>> |
| Enter RF test technician name and the date of the test.   * Inspect the set-up and perform RF survey. * Follow the F100 window power ramp up. * Maintain the max power 12kW until the ceramic temperature has stabilized at its maximum (Temperature increase should be less than 1 degree C per hour). * Observe and record the thermal activity at the window using IR camera. * Record the window flange temperature using the thermocouple output signals. * At the end of the test, turn off RF. * Allow time for window and waveguide to cool before removing window from waveguide. * Did the brazement pass the RF test? * If the brazement did not pass the RF test, generate NCR. Forward the passed brazement to the leak check technician. | [[Ti\_RF\_Tech]] <<SRF>>  [[Ti\_RF\_Date]] <<TIMESTAMP>>  [[Ti\_RF\_file]] <<FILEUPLOAD>>  [[Ti\_RF\_Pass]] <<YESNO>> |
| Final leak check per spec 11141S0029.   * Enter leak check technician name and time of the test. * Did the brazement pass the final leak check? * Package the passed brazement for shipping to the anti-multipacting coating vendor. * If it did not pass the leak check generate NCR. | [[Ti\_FLeak\_Tech]] <<SRF>>  [[Ti\_FLeak\_Date]] <<TIMESTAMP>>  [[Ti\_FLeak\_Pass]] <<YESNO>> |

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| **Step No** | **Instructions** | **Data Inputs** |
| 13 | Is the brazement shipped to the Anti-multipacting coating vendor, Thin Film Labs? | [[Ship\_Anti]] <<YESNO>>  [[Ship\_Anti\_date]] <<TIMESTAMP>> |
| 14 | Receiving inspection from anti-multipacting coating vendor   * This brazement is from the anti-multipacting (Titanium Dioxide) coating vendor. Make sure you opened the correct adapter ID. * Enter technician name and date of the inspection. * Inspect the shipping container. Is the container free from damage? | [[TiO2\_Tech\_Name]] <<SRF>>  [[TiO2\_Date]] <<TIMESTAMP>>  [[TiO2\_ContainerOK]] <<YESNO>> |
| 15 | The existence of coating is hard to tell by visual inspection.   * Until the specific method is developed inspect ceramic surface for visual damages. * Provide comment if the brazement shows any abnormality. * Contact the responsible engineer for next step. | [[TiO2\_VisPass]] <<YESNO>>  [[TiO2\_Comment]] <<COMMENT>> |
| 16 | Is this brazement sampled for RF test?   * If yes, perform the initial leak check per spec 11141S0029. Minimum Detectable Leak 1×10^-10 atm.cc/sec He. If not, repack, mark 'weld ready', and store in the designated area. * Enter leak check technician name and time of the test. * Did the brazement pass the leak check? * If the brazement did not pass the leak check, generate NCR. Forward the passed brazement to the RF test personnel. | [[TiO2\_RF\_smpl]] <<YESNO>>  [[TiO2\_ILeakTech]] <<SRF>>  [[TiO2\_ILeakDate]] <<TIMESTAMP>>  [[TiO2\_ILeakPass]] <<YESNO>> |
| * Enter RF test technician name and the date of the test. * Inspect the set-up and perform RF survey. * Follow the F100 window power ramp up. * Maintain the max power 12kW until the ceramic temperature has stabilized at its maximum (Temperature increase should be less than 1 degree C per hour). * Observe and record the thermal activity at the window using IR camera * Record the window flange temperature using the thermocouple output signals. * At the end of the test, turn off RF. * Allow time for window and waveguide to cool before removing window from waveguide. * Did the brazement pass the RF test? * If the brazement did not pass the RF test, generate NCR. Forward the passed brazement to the leak check technician. | [[TiO2\_RF\_Tech]] <<SRF>>  [[TiO2\_RF\_Date]] <<TIMESTAMP>>  [[TiO2\_RF\_file]] <<FILEUPLOAD>>  [[TiO2\_RF\_Pass]] <<YESNO>> |
| * Final leak check per spec 11141S0029. * Enter leak check technician name and time of the test. * Did the brazement pass the final leak check? If it did not pass the leak check generate NCR. | [[TiO2\_FLeakTech]] <<SRF>>  [[TiO2\_FLeakDate]] <<TIMESTAMP>>  [[TiO2\_FLeakPass]] <<YESNO>>  [[TiO2\_FLeakFile]] <<FILEUPLOAD>> |
| * Is the part ready for weld? * Send the passed adapter to the chem room to clean. Repack the cleaned part, mark 'weld ready', and store in the designated area. * In inventory system, issue adapter to Ken Worland or his designate for welding. | [[Weld\_ready]] <<YESNO>> |