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| Traveler Title | C75 Dog Leg BCP Traveler | | | |
| Traveler Abstract | The following traveler records acid etch data for the C75 Dog Legs | | | |
| Traveler ID | C75-CPR-CHEM-DGLG | | | |
| Traveler Revision | R1 | | | |
| Traveler Author | Alex Wildeson | | | |
| Traveler Date | 25-Sept-2020 | | | |
| NCR Informative Emails | areilly,forehand,ganey | | | |
| NCR Dispositioners | ashleya,kdavis | | | |
| D3 Emails | ashleya,ganey,kdavis,forehand | | | |
| Approval Names | Alex Wildeson | Ashley Mitchell | Kirk Davis |  |
| Approval Signatures |  |  |  |  |
| Approval Date |  |  |  |  |
| Approval Title | Author | 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. | | | |
| [SRF-16-58478-OSP](https://mis.jlab.org/mis/apps/mis_forms/operational_safety_procedure_form.cfm?entry_id=58478)  Production Chemistry Room OSP | [CP-C75-CAV-BCP-ER](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-150777/CP-C75-CAV-BCP-ER-R1.pdf)  BCP Etch Rate measurement | C75 cavity flange etching | CP-C75-CPR-CHEM-DGLG |  |

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| Revision Note |  |
| R1 | Initial release of this Traveler. |

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| **Step No.** | **Instructions** | **Data Input** |
| A | Input Dog Leg SN: | [[DogLegSN]] <<DogLegSN>>  [[DateTime]] <<TIMESTAMP>>  [[CommentA]] <<COMMENT>> |
| 1 | After Dog Leg has been lapped and degreased, inspect the sealing surfaces for an abnormalities and document them appropriately. | [[VisualTech1]] <<SRFCVP>>  [[PassedInspection]] <<YESNO>>  [[Comment1]] <<COMMENT>> |
| 2 | Follow CP-C75-CPR-CHEM-DGLG.  Document the technician performing the acid etcing. | [[ChemTech1]] <<SRFCVP>> |
| 3 | Doglegs may be etched in the following ways depending on their stage of fabrication:  A. If the ceramic window has not been brazed to the large flange yet, the entire dogleg can be immersed in the acid for etching.  B. If the ceramic window has been brazed but there are no threaded inserts in the flange, the flange can be immersed in the acid for etching  C. If the ceramic window has been brazed and threaded inserts have been installed in the holes in the flange with the window, the flange should NOT be immersed in the acid and only Q-tip etching is allowed.  Document the etching process used. | [[DoglegCondition]] {{EntireDoglegDipped,FlangeDipped,QTipOnly}} <<RADIO>> |
| 4 | Select whether the old acid mixture was used or a new one was mixed for this process.  Enter the date the acid mixture was prepared.  Measure the etch rate of the BCP 1:1:1 solution to be used at **15-17 °C**. If the etch rate is **< 3 microns /min** for BCP 1:1:1 the acid should not be used and a fresh solution should be mixed.  Enter the temperature of the acid during etch rate test [it should be between 15-17 °C (59-63 °F)].  Enter the average value of the etch rate from the measurement by weight loss.  Enter the etch rate measured by thickness reduction.  If the etch rate values determined by both methods differ by more than 20%, the measurement should be repeated. | [[UsedAcid]] {{Old,Fresh}} <<RADIO>>  [[AcidDate]] <<TIMESTAMP>>  [[AcidTemperature]] <<FLOAT>> °C  [[EtchRateWeight]] <<FLOAT>> microns/min  [[EtchRateThickness]] <<FLOAT>> microns/min  [[AvgEtchRate]] <<FLOAT>>  [[AvgEtchRate: Please add code to calculate average etch rate = (EtchRateWeight + EtchRateThickness)/2. Please limit to 1st decimal value]] << NOTE>>  Measured by [[ChemTech]] <<SRFCVP>> |
| 5 | The etching time to remove 25 microns is  Etch the Dog Leg for the calculated duration as per “C75 flange BCP” procedure. Check the acid temperature periodically to assure it is maintained below 20 °C (68 °F). | [[EtchTime]] <<FLOAT>> min  [[25/(AvgEtchRate). Please limit to 1st decimal value]] <<NOTE>> |
| 6 | Inspect each flange for visible scratches or defects after the part is dry.  Upload pictures of the flanges if any defect or scratch is found and describe defect location in the Comment box.  Please select if rework is necessary, which flange and which type of rework (Q-tip HF, etch, lapping) | [[FlangesPassInspection1]] <<YESNO>>  [[InspectedBy2]] <<SRFCVP>>  [[DefectLocation]] <<COMMENT>>  [[FlangePictures]] <<FILEUPLOAD>>  [[ReworkNecessary]] <<YESNO>>  [[FlangesToBeReworked]] <<COMMENT>>  [[ReworkType]] {{HF-Qtip,Etch,Lapping}} <<SELECT>>  [[DateCompleted]] <<TIMESTAMP>> |
| 7 | If rework was needed, please re-inspect the reworked flanges. | [[FlangesPassInspection2]] <<YESNO>>  [[InspectedBy3]] <<SRFCVP>>  [[DateInspection2]] <<TIMESTAMP>> |