



# DEVELOPMENT CONTRACT

## *Feasibility Testing Program*

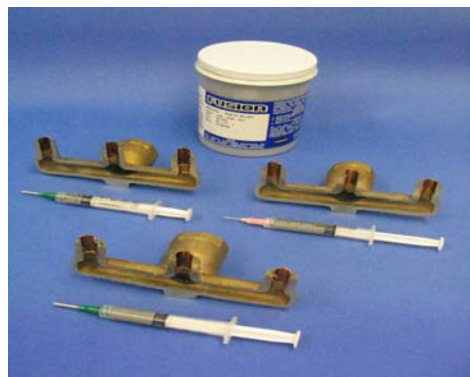
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Now, you can take the guesswork out of brazing or soldering automation with a low-cost Fusion Development Contract. This revealing study gives you the facts – in advance – on the feasibility and economy of a new brazing or soldering system. The results: An equipment design based on *proven* test data, a firm quotation, and the satisfaction that comes with successfully automating a complex assembly job. What's more, the cost of this valuable study will be credited toward any resulting Fusion equipment purchase!

## Development Contract – What's Included?

### Paste Alloy Selection

Fusion manufactures a few hundred formulations of finely-atomized filler metal, flux, and neutral binder. Through careful testing, filler metal characteristics for strength, melting temperature, appearance, and metallurgical compatibility are matched to the application. The objective: Strong, void-free brazed or soldered joints at the lowest possible cost.



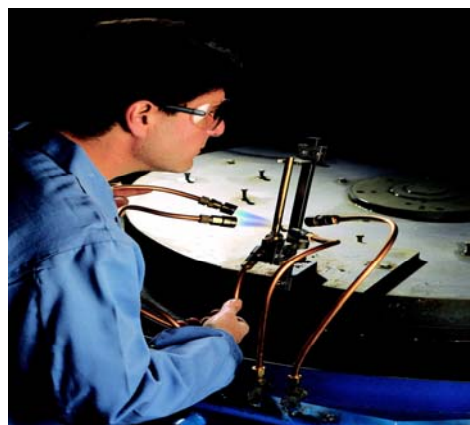
### Fixture Design

Among the factors most vital for effective brazing or soldering is design of the fixtures which hold parts in proper alignment. The tooling must facilitate quick loading and unloading of parts – whether manual or automatic. Parts must be supported well away from the joint area to minimize “heat sink” effect. Fixtures must withstand repeated heating and cooling cycles without distortion that might compromise important assembly tolerances. These rigid standards, plus others, will be applied as Fusion designs prototype tooling to carry your parts through exhaustive brazing or soldering tests.



### Heat Engineering

Selecting the proper heat source – and how its applied – are two prime Development Contract goals. Open flame, induction, resistance, and furnace are among the techniques available. Since molten alloy tends to flow toward the greatest concentration of heat, all components must reach the brazing or soldering point simultaneously. The effects of thermal expansion must be weighed too, especially when parts of different masses are being joined. By coupling your assemblies with proper tooling, under realistic production conditions, Fusion ensures that these factors are fully evaluated.



(continued on the reverse side)



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### Simulated Production Run

A graphic demonstration takes shape when your personnel visit Fusion for a Development Contract production run. A laboratory machine, equipped with prototype tooling for your assemblies, joins a quantity of parts. Important relationships between paste alloy application, heating, and cooling stations are observed under actual production conditions. Speeds and performance data are verified through first hand experience, and representative sample parts are produced for testing. Based on your input, refinements are made until the process and proposed equipment satisfy the most demanding production standards.



### Report & Analysis

Upon completion of the Development Contract, a detailed report is submitted, summarizing the objectives taken, and the results. Physical considerations such as fixture design, heat patterns, amount and location of paste alloy deposit are presented via specific photographs. Material, labor, and unit costs are itemized, then compared with existing methods to accurately represent potential savings. Finally, a detailed equipment proposal gives firm, up-front price and delivery, plus performance criteria *proven* through actual production.



From here, it's up to you, to interpret the Fusion Development Contract Data, and put it to work in automating your brazing or soldering operation in the most cost efficient, profitable manner possible!



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