## **COMPARISON BETWEEN** *MRC 1200 GRP cleanroom system AND a painted metallic system*

| Item | Properties | MRC1200 | Metallic | Remarks |
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| 1 | **Can the panel rust?** | Does not rust | Yes it does | In Pharma production areas the use of disinfectants causes metallic panels to rust particularly around service cutouts, door frames and where the panels have been scratched. The GRP cannot rust because it has no metallic components. |
| 2 | **Does the panel need insulation material?** | Not necessary | yes | Insulation materials such mineral wool may shed into the cleanroom or absorb moisture allowing microbial growth to occur and corrosion to start. |
| 3 | **Does the panel need painting?** | No | Yes | The GRP has self finish and requires no paint or laminate. The metallic system does need painting. The very best metallic systems, on offer today have a max paint coating of around 50 microns. This can easily be scratched revealing the bare metal causing it to corrode. |
| 4 | **Chemical resistance** | Excellent | Fair | However any metallic areas which are scratched will not have any resistance. |
| 5 | **Integral coving between wall and ceiling and between walls** | Yes | No | In the metallic system the only way to achieve a cove is to stick it on. This creates new crevices rendering such coving system non GMP. In our GRP system the cove is a continuous part of the wall panels produced in one piece from a mould. |

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| 6 | **Can the panel be damaged easily by the application of moderate force caused by say impact of a trolley>** | No | yes | The slightest impact would scratch the paint surface on the steel panel or denting it. Metallic panels cannot be repaired therefore they must be replaced or patched up. |
| 7 | **Can panels be repaired in situ in such away as to remove all signs of the damage?** | Yes | No | The GRP can be repaired easily invisibly by using the same resin with the same colour. The process is very easy and fast. Client maintenance staff is normally trained to do it themselves. |
| 8 | **Does the system allow easily for design changes during installation and later on in operation?** | Yes | No | Once a metallic system is installed it is not practical to take it down and install it again without damaging it. Introduction of new services in new locations is not possible. Making new cutouts on site cannot be done cleanly without exposing the insulation material and leaving the edge of the whole exposed and not painted causing corrosion to start. |
| 9 | **If a clearoom requires ceiling height of 4 or more m. Can the wall panels still be made from one piece or will it have to have a horizontal joint?** | MRC made panels in one piece up to 8.3m tall. | Metallic systems will have a horizontal joint. | There is no limit to the size of the panel we can make other than the practical considerations of shipping, and handling. |
| 10 | **How long will the system last?** | Over 30 years | Around 5 years | MRC started 30 years ago. We have cleanrooms that old still in operations. We have helped old clients sell their old cleanrooms to new customers. These old panels only needed cleaning. Metallic cleanrooms only last a relatively short period and only if the Client carries extensive maintenance routine. |

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| 11 | **Will the system due to maintenance requirements cause disruption to production activities?** | No | Yes | The MRC system is strong, does not easily scratch, it does not rust, it does not have a paint where as the metallic system is not strong, can easily scratch, it does rust unless regularly repainted. |
| 12 | **Does the cleanroom have a residual value after say 20 years?** | Yes | No | As mentioned before we helped customers who for one reason or another wanted to decommission the cleanroom. We have in the last 8 years done this 5 times on cleanrooms whose ages ranged between 20 and 24 years. On 3 occasions these cleanrooms are now installed again in other customer premises. The other 2 are currently being worked on in our factory and are due to be shipped to the new client within the next few weeks. |

Above are the key issues normally raised during the normal technical review of bids and systems? There are many other considerations which I can include in this Comparison which will also show the GRP's superiority over the metallic system. For example

1. The ability to provide integral low level extract
2. Its non sparking properties in areas of low humidity.
3. Its class O rating for spread of flame (BS476 parts 6 and 7)
4. Its ability to contain within it thickness many services, mezzanine columns etc leaving the cleanroom wall free from surface fixed services.
5. The GRP doors are particularly important because in metallic systems the doors tend to be the first thing to fail.
6. The GRP because it is moulded and is free from crevices is easier to clean and to keep clean.
7. Because of its many features the GRP gets through validation tests faster than any other system.
8. We can GO ON AND ON