



Johnson Matthey

Metal Joining



THE BAN ON CADMIUM IN BRAZING FILLER METALS - SOME QUESTIONS ANSWERED

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When did the regulations take effect?

The legal instrument of this ban is an EU Regulation which applies in its entirety and to all Member States from the date in the text, which was originally the 10th January 2012. An amendment was released to change the date of application of the Regulation to read **'It shall apply from the 10th December 2011'**.

What does the regulation say?

Cadmium... **'Shall not be used in brazing fillers in concentration equal to or greater than 0,01% by weight. Brazing fillers shall not be placed on the market if the concentration of cadmium (expressed as Cd metal) is equal to or greater than 0,01 % by weight. For the purpose of this paragraph brazing shall mean a joining technique using alloys and undertaken at temperatures above 450 °C.**

...By way of derogation, paragraph 8 shall not apply to brazing fillers used in defence and aerospace applications and to brazing fillers used for safety reasons.*

Annex XVII of the EU REACH regulation contains a list of substances, groups of substances or preparations for which there is a restriction on their **'manufacture, importation, supply or use'**. Furthermore it states that cadmium brazing materials **'shall not be placed on the market'**.

What does the regulation actually mean?

Essentially it means that cadmium containing brazing filler metal is banned in the EU (apart from certain specified exceptions).



'Placed on the market' has a specific legal meaning in the context of how it applies to REACH. Specifically it covers all aspects of supply or transfer from one legal entity to another, including samples or other transfers which may not involve commercial gain. Importing of cadmium containing products is captured in the definition of this phrase and so is also banned.

Can stocks of product already 'on the market' be used?

One interpretation is that stocks already in possession of a particular legal entity can be used after the date above, but may not be transferred to another legal entity. However, some commentators have interpreted the legislation to mean that cadmium containing filler metals are also banned for use. Either way Companies or individuals should avoid using cadmium containing products and definitely should not buy, sell or transfer them to others.

What about the exceptions?

Aerospace and Defence - Exceptions are being made for aerospace or defence applications where the cost of re-qualifying a cadmium-free product could be enormous and product changes can have an impact on either safety or security. Having said this many aerospace companies or defence organisations made the switch to cadmium-free products several years ago.

Safety Reasons - Another exception appears to be where brazing filler metals are used for 'safety reasons' and to the layman this explanation looks less clear cut. Some Companies or individuals may assume that their application is exempt because they can argue that if there is a problem switching to cadmium-free it will render their particular component unsafe, perhaps because it carries a gas or liquid or operates under pressure for example.

So to what extent could an individual or Company argue that they needed to use cadmium containing filler metals for 'safety reasons' and who will determine if what they said was correct or incorrect?

This has been tested before in law as a general clause and one would need an opinion from a legally qualified expert to be

definitive. However, it is Johnson Matthey's understanding that it would have to be shown that there was a bone fide reason why the specific application was essential for a safety related reason. Considering past precedent example, some cadmium containing pigments were permitted to be used for longer in warning marking applications because they were a bright orange colour.

The presence of a suitable alternative not subject to the Restriction Regulation would obviously undermine any case made for cadmium containing brazing filler metal.

In the last 20 years Johnson Matthey Metal Joining has not come across any situation where a cadmium-free silver brazing filler metal could not be used as a suitable alternative to a cadmium bearing filler metal once the proper adjustments have been made to brazing practices.

The **Member State Competent Authorities** would be the first arbiters in any dispute. There have been cases where companies have referred such matters to the Member State Competent Authorities.



References

*Quote from the amended annex as taken from

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:134:0002:0005:en:PDF>

For 'Placing on the market' see <http://www.hse.gov.uk/reach/definitions.htm#placingmarket>

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