



Comhshaol, Pobal agus Rialtas Áitiúil
Environment, Community and Local Government



8th June 2012

Mrs. Anne Potter,
Executive Director,
Association of Consulting Engineers of Ireland,
46 Merrion Square,
Dublin 2.

Structural Steel – Potential Product Failure

Dear Anne,

1. I have been asked by the Minister for the Environment, Community and Local Government to bring to your organisation's attention concerns that have arisen recently in relation to the potential importation into Ireland of structural steel products that do not comply with the requirements of *Council Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products* (known as the 'Construction Products Directive').
2. The product failures arise in hot-formed longitudinally welded hollow profiles and cold-formed longitudinally welded hollow profiles of unalloyed construction steels of types S355J2H and S235JRH with different nominal dimensions (from 80 x 80 x 6 mm to 500 x 300 x 12.5 mm). Such products fall within the remit of *EN 10210-1:2006 - Hot finished structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions* and *EN 10219-1:2006 - Cold formed welded structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions* respectively both of which are harmonised standards that fall within the remit of the Construction Products Directive.
3. This Department understands that a number of hollow profiles were tested by a market surveillance authority in Germany - most of the hollow profiles tested appear to have been made of unkilld or killed steel rather than the fully killed steel. Due to an incorrect aluminium content, these steel products are only suitable for welding in limited applications. In broad terms, there is a risk of failure to the welds in welded structures (i.e. junction points). Failure of a weld, in the event of use for its assumed purpose (i.e. as a component under compression), could cause a lack of stability which could result in a failure without warning. Where such hollow profiles are used as components subject to bending stress (girders), the failure of a weld (depending on the position of the weld in the structure) could result either in excessive bending stress with warning or possibly to failure without warning due to a lack of stability.
4. Accordingly, the essential requirements of construction works as set out in Annex I to the Construction Products Directive having regard to mechanical resistance and stability and safety in use are not being met when such hollow profiles are used in construction or civil engineering projects. Article 3 and Annex I to the Schedule to the *European Communities (Construction Products) Regulations 1992* (S.I. No. 198 of 1992), which transpose these provisions into Irish law, require that a person shall not place a product, other than a minor product, on the market unless it has such characteristics that the works in which it is to be incorporated, assembled, applied or installed can,

if properly designed and built, satisfy the essential requirements when, where and to the extent that such works are subject to regulations containing such requirements (such regulations include the Building Regulations).

5. In light of the potential seriousness of the risk, a RAPEX¹ notification has issued from the German market surveillance authority where this issue first arose which has confirmed that the entry point of such products into the European Union appears to have been Italy. The country and company of manufacture of such products is unknown at this point in time.
6. As you are aware, the Construction Products Directive is given effect in Ireland by the *European Communities (Construction Products) Regulations 1992* (S.I. No. 198 of 1992) as amended by the *European Communities (Construction Products) (Amendment) Regulations 1994* (S.I. No. 210 of 1994). Building control authorities have been designated as the principal enforcement authorities under the regulations and, consequently, have been advised by the Department of this issue under separate cover.
7. Given the potential seriousness in connection with product failure arising from such hollow profiles, the Department has asked that building control authorities make enquiries with all metal fabricators operating within their functional areas in order to ascertain if any hot-formed longitudinally welded hollow profiles and/or cold-formed longitudinally welded hollow profiles of unalloyed construction steels of types S355J2H and S235JRH has been imported from Italy and take all appropriate action in the event that the importation of any such hollow profiles is identified.
8. Nevertheless, the Department would also ask that the Association of Consulting Engineers of Ireland inform their members of recent events as set out above. In addition, the Department would strongly advise that your members be vigilant when specifying / procuring / purchasing / utilising hollow profiles in construction works and civil engineering projects and should seek appropriate documentation to confirm that the hollow profiles comply with the relevant harmonised standards as set out in paragraph 2. Should a member of your organisation have any concerns regarding the quality of a particular batch of hollow profiles, it is recommended that they contact their local building control authority for further advice in the matter.

Yours sincerely



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¹ RAPEX is the EU rapid alert system for all dangerous consumer products, with the exception of food, pharmaceutical and medical devices. It allows for the rapid exchange of information between Member States (via central contact points and the Commission) of measures taken to prevent or restrict the marketing or use of products posing a serious risk to the health and safety of consumers. Both measures ordered by national authorities and measures taken voluntarily by producers and distributors are covered by RAPEX.