

AD 403: Steel strengths for fabricated haunches

This AD is a simple reminder that the **steel strength** selected for haunches must match that assumed in the design calculations. As S355 is now the common steel strength for **rolled sections**, it is highly likely that the calculations for the haunch have also assumed S355 steel – it is important that rolled sections or **plate** used for the haunch matches the higher grade, unless design calculations have verified a lower strength steel.

In the UK, S275 rolled sections are no longer readily available, with S355 being the common steel strength. For the design of **portal frames**, the increase in strength is not always beneficial – the opportunity to select smaller sections means that deflections will increase and second order effects (which are calculated based on deflections) will be more significant.

Most haunches are cut from rolled sections, so will normally be the higher grade steel. The potential for a mistake is increased with haunches **fabricated** from plate. Plate (particularly in the form of flats) is available in S275 steel, so connection designers need to be careful to specify the appropriate steel strength clearly.

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New and revised codes & standards

From BSI Updates November 2016

BRITISH STANDARDS

BS 7668:2016

Weldable structural steels. Hot finished structural hollow sections in weather resistant steels. Specification
Supersedes BS 7668:2004

DRAFT BRITISH STANDARDS FOR PUBLIC COMMENT – ADOPTIONS

16/30343618 DC

BS EN ISO 14731 Welding coordination. Tasks and responsibilities
Comments for the above document were required by 26 November, 2016

16/30345944 DC

BS EN ISO 22825 Non-destructive testing of welds. Ultrasonic testing. Testing of welds in austenitic steels and nickel-based alloys
Comments for the above document were required by 5 November, 2016

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BUILDING WITH STEEL

Britain's first commercial monorail



It is well recognised that one solution to easing transport problems in Britain's densely populated towns and cities lies in the overhead monorail: for this reason particular interest attaches to the monorail system that came into operation last season at the Blackpool Pleasure Beach. It embodies the facilities which will be necessary in a major monorail system such as automatic safety devices, stations with controlled platform entries and exits and a service station into which trains can be switched on to self-propelled rail sections to stock or service bays. Furthermore, the system has been designed for fully automated operation, to be introduced after a suitable running-in period. Another point of interest is that this is said to be the first commercial project of its kind in the country: it is in fact a self-supporting, profit-making proposition.

The problem of mass transportation within the grounds of the Pleasure Beach had been a matter of concern for some time past, chiefly for two reasons, (a) because of continued expansion some form of transportation was obviously required to improve traffic flow and (b) on their first visit

most people like to have an overall idea of the layout of the Pleasure Beach and the amenities available. These requirements are met by an overhead monorail transport system, which has the additional advantage of occupying minimum valuable ground space, of being speedy yet quiet, offers minimum obstruction to viewing and is in keeping with the progressive image of the Pleasure Beach.

There are four 105-ft long trains on the mile-long continuous track, these having 15 carriages each holding four persons in comfort: when all four trains are in use a capacity of 4,000 passengers an hour can be attained. Provision has been made for a further three trains should this be found necessary. Speeds of up to 12 ft/sec are possible, but because of the high ratio of curved to straight track they are usually kept below this figure in order to give smooth running.

The carriages are of glass fibre and aluminium construction: their height has been kept low because the trains pass through various buildings and also in order to offer minimum resistance to winds which in gales may be as high as 100 mph. One train has