

Control and management of noise risks in PLASTICS

Table 1. Established noise control methods for high-risk activities

High risk activity / process	Example noise levels, dB*	Established noise control methods	Further information (links)
Granulators (and other size reduction machines e.g. agglomerators, crushers, shredders, pelletisers)	100 (granulators)	Methods include: • use feed conveyor to remove operator from higher noise areas • situate size reduction machines in separate rooms or buildings – provide for remote or automated feeding • lag or damp the machine casing • form sound trap in feed aperture or hopper • enclose the machine • fit segmental or helical cutters • use tangential feed • fit resilient backing to knives • reduce rotor speed	<p>Example: Rubber granulator (<i>see HSE noise web pages</i>)</p> <p>Example: Enclosure for rubber grinding machine http://www.casestudy.mom.gov.sg/casestudy/case-study-detail.jsp?id=199</p> <p>Example: Strand pelletisers (HSG138 #39) (<i>see HSE noise web pages</i>)</p> <p>Example: Enclosure for pelletiser http://www.casestudy.mom.gov.sg/casestudy/case-study-detail.jsp?id=294</p> <p>Generally useful: "Noise in the plastics processing industry" (RAPRA 1985) This publication is out of print but can be obtained by contacting Smithers RAPRA, Shrawbury - http://rapra.net/contact.asp</p>
Injection moulding machines	97 – 100	Methods include: • use slow speed pumps • control release of exhaust air • mount pumps and motors on anti-vibration mounts and incorporate flexible hoses in pipe lines • enclose hydraulic power packs • convert injector guards to acoustic guards • fit low noise nozzles to blow guns etc.	<p>Example: Controlling release of exhaust air http://www.casestudy.mom.gov.sg/casestudy/case-study-detail.jsp?id=200</p>
Extruders	90	Methods include: • specify low noise design • for hydraulic systems see injection moulding machines above • fit silencers to drive motor air intakes and exhausts • enclose drive motor.	
Mould cleaning guns	105	Replace nozzles with low-noise types (e.g. those which generate an induced secondary air flow). Reduction of up to 10 dB.	<p>Example: Reduced noise from mould cleaning gun (HSG138 #16) (<i>see HSE noise web pages</i>)</p>

* Sample L_{Aeq} . The noise levels are indicative only and will vary depending on equipment type and conditions of use.

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	Example noise levels, dB*	Established noise control methods	Further information (links)
Extrusion line cut off saws	100	Methods include: • replace guards with solid panels lined with acoustically absorptive material • fit acoustic strip curtain at product out-feed	Example: Extrusion line cut-off saws (HSG138 #53) (see <i>HSE noise web pages</i>)
Ultrasonic welding machines	96 (typical)	Enclose with sound reducing material	Example: Enclosure of welding machine http://www.casestudy.mom.gov.sg/casestudy/case-study-detail.jsp?id=228

See also Table 2. Management of noise risks

**PLEASE FAX COMPLETED FORM TO: 020 7717 6681 Noise
control methods for Plastic Products – Feedback Form**

Your views are important to us so that we can improve the way we communicate information on noise control methods. We would be grateful if you could spare a couple of minutes to fill in this form and fax it back to us at the above number. Any information you provide will be treated in confidence and will only be used for research purposes. You do not have to give your contact details.

Please rate the following statements by ticking the box which most closely represents your level of agreement or disagreement with each statement.

	<i>Strongly Agree</i>	<i>Agree</i>	<i>Don't Know</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
The activities/processes listed include those that I was concerned with					
The information given was useful in helping my organisation decide whether it should be taking action					
I was able to understand the information on noise control methods					
I found the control methods were relevant/realistic					
The information in the linked references and related guidance was helpful					
My organisation intends to take action to apply the control methods					

If you have any comments you would like to make, please do so in the space below:

What is your role/job in your organisation?

Employee Middle Manager Health & Safety Senior Manager Union
Supervisor/Foreman Self Professional Other *Please specify* representative
employed

How many people work in your organisation?

Less than 50 employees Between 51 and 250 More than 1000 Between 251 and 500
501 and 1000

Thank you very much for your feedback. Please fax this to the number given at the top of the page

HSE are always looking for new ideas and solutions to noise problems. If you are willing to share your experience with others please give your details below so that we can discuss this with you.

Name: **Company:**

Telephone number:..... **Email:**