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PRESS RELEASE

Number 40

FAKUMA 2011:
WACKER Introduces New Liquid Silicone Rubber Grades for Optimum Fire Protection

Munich, August 29, 2011 – WACKER, the Munich-based chemical company, will be presenting two new liquid silicone rubber grades at this year's FAKUMA tradeshow: ELASTOSIL® LR 3011/50 FR and ELASTOSIL® LR 3170/40. The US testing institute Underwriters Laboratories (UL) has given these highly flame resistant products its very best flammability rating (V-0). The new silicone grades also reduce processing costs. Compared to other highly flame-retardant liquid silicone rubber, the new ELASTOSIL® LR 3011/50 exhibits considerably less abrasive behavior during the injection molding process, thereby reducing abrasion in the mold. The same applies to ELASTOSIL® LR 3170/40. This self-adhesive liquid silicone rubber is also ideal for producing flame-retardant, two-component molded parts on a large scale, and with considerable speed and a high degree of automation. FAKUMA international tradeshow for plastics processing will take place from October 18 to 22 in Friedrichshafen, Germany.

Up to now, the way to render liquid silicone rubber grades flame resistant was to add inert fillers such as quartz. These types of fillers, however, result in increased material abrasion during the injection molding process. Such abrasion, which is especially

evident in the sprue portion of the injection mold, shortens maintenance intervals and leads to costly mold reworking.

The new ELASTOSIL® LR 3011/50 FR liquid silicone rubber eliminates this problem. It is formulated with special inert fillers that work together to produce outstanding flame-retardant properties without the use of abrasive additives. The result is a clear reduction in mold fouling over traditional flame-resistant liquid silicone rubber grades, and this, in turn, significantly extends equipment life and offers considerable process-cost advantages. The vulcanizates of ELASTOSIL® LR 3011/50 FR in various thicknesses have been rated V-0, as per Underwriter Laboratories standard UL 94.

ELASTOSIL® LR 3170/40

Self-Adhesive Liquid Silicone Rubber

ELASTOSIL® LR 3170/40 is a new liquid silicone rubber grade that addresses the increasing importance of two-component injection molded products. The silicone in this case is the soft component of a hard/soft composite. ELASTOSIL® LR 3170/40 is self-adhesive and, after curing, also meets the V-0 flammability rating defined in the UL 94 standard.

ELASTOSIL® LR 3170/40 uses a patented WACKER self-bonding technology that has already found application in other silicone grades. This liquid silicone rubber is formulated in such a way that it begins bonding to hard components – but not to the surface of the injection mold – during the vulcanization process. Surface priming or pretreatment (with plasma, for instance) is no

longer necessary. In the production of two-component injection molded products, this bonding behavior allows manufacturers to increase automation to a level previously unattainable with flame-resistant liquid silicone rubber. Suitable hard components include metals such as aluminum and certain flame-resistant polyamides.

Properties and Areas of Application

ELASTOSIL® LR 3011/50 FR and ELASTOSIL® LR 3170/40 can both be easily integrated into the injection-molding process. The vulcanizates of both silicone grades yield a balanced material profile and are characterized by favorable mechanical and dielectric properties, as well as excellent heat resistance.

Possible applications for both of these new products can be found wherever processes require not only high levels of fire protection, but also properties typically associated with silicone, such as elasticity at low temperatures, electrical non-conductivity and resistance to heat, weathering and aging. Applications include LED fittings for background lighting in flat screen monitors, axial and radial seals in connection sockets, and single-wire seals for the housing of solar collectors.

The rapid development of electrically powered vehicles has increased flame-resistance requirements for the components used in this field. A high level of safety must also be guaranteed in the event of overheating or a short circuit. ELASTOSIL® LR 3170/40 and ELASTOSIL® LR 3011/50 FR satisfy these increasing demands, with each serving as fire protection materials whenever a

product needs to be both highly resistant to electrical discharge and sealed from external media.

Single-wire seals made of ELASTOSIL® LR 3011/50 FR from WACKER. The new silicone elastomer is flame resistant and ideal for the sophisticated electrical components of flat screen monitors, solar collectors and electric vehicles. (Photo: Wacker Chemie AG)

Note:

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The company in brief:
WACKER is a globally-active chemical company with some 16,300 employees and annual sales of around €4.75 billion (2010).
WACKER has a global network of 26 production sites, 20 technical competence centers and 50 sales offices.

WACKER SILICONES
Silicone fluids, emulsions, rubber and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS
Polyvinyl acetates and vinyl acetate copolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions used as binders for construction chemicals, paints and coatings, adhesives, plasters, textiles and nonwovens, as well as for polymer materials based on renewable resources

WACKER BIOSOLUTIONS
Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON
Polysilicon for the semiconductor and photovoltaics industries

Siltronic
Hyperpure silicon wafers and monocrystals for semiconductor devices