**GENERAL PRODUCT DESCRIPTION**

AIS FR Acrylic sealant - FP 508 is designed to prevent the spread of fire and smoke through joints and openings in fire rated walls and floors including openings formed around building service penetrations. FP 508 will also maintain the acoustic design performance in walls and floors.

FP 508 cures when it is subjected to atmospheric conditions, however it will retain a degree of elasticity for joint movement. Under fire exposure, FP 508 creates a robust fire seal by the formation of a durable intumescent char.

FP 508 can be used with a suitable filling material, i.e. stone wool or AIS backing material in order to secure correct width to depth ratio and to reduce the shrinking of the sealant during curing. Minimum depth and maximum width of the joints are included in the installation instructions. Thermal activation takes place at about 180°C when the material will expand (intumesce) and prevent the passage of fire and smoke for periods up to and beyond 4 hours.

**PROPERTIES**

* High end formula, certified in most countries Worldwide
* Faster application times and minimal material use due to its ability to achieve high fire ratings and single sided installations
* Classified for fire sealing all types of constructions such as drywalls, masonry walls, concrete walls, concrete floors and composite floors
* Classified for fire stopping of service penetrations in cross-laminated timber walls and floors
* Classified for fire sealing all types of building service penetrations such as cables, cable bundles, cable conduits, steel pipes, copper pipes, composite pipes, PVC pipes, PE pipes, ABS pipes, PP pipes and PEX pipe-in-pipes
* Classified with commonly used pipe insulations such as stone wool, glass wool, elastomeric and phenolic, both interrupted and continuous through the fire seal
* Classified for fire sealing against timber, steel and aluminium such as door and window frames
* Causes no deleterious effects on cPVC pipes like Blaze Master, supported by mechanical testing evidence
* May be installed in drywalls with or without framing around the opening
* Very high sound insulation
* Air, smoke and gas tight, tested at 600 Pascal
* Low emissions - environmentally and user friendly
* Simple to apply with a smooth surface finish
* No priming necessary for application to most materials
* Suitable for most surfaces, including concrete, masonry, steel, gypsum, glass, plastics and most non-porous surfaces
* Hardens quickly and tack free after 1 hour (the fire performance specification of the joint filler has been derived when the joint filler has been let to cure for a month)
* 18 months storage time (under correct conditions)
* 30 years working life

**SOUND INSULATION**

|  |  |
| --- | --- |
| Description | Sound Reduction |
| Single sided seal 12mm depth | 62 dB |
| Single sided seal 12mm depth | >62 dB |

Usage of any backing material is optional, due to the tests being conducted with sealant only.

**EMISSION DATA (INDOOR AIR QUALITY)**

|  |  |  |
| --- | --- | --- |
| COMPOUND | EMISSION RATE AFTER 3 DAYS | EMISSION RATE AFTER 4 WEEKS |
| TVOC | 83 µg/m3 | < 5 µg/m3 |
| TSVOC | n.d. | < 5 µg/m3 |
| VOC w/o NIK | n.d. | < 5 µg/m3 |
| R Value | n.d. | 0 |
| Formaldehyde | <3 | < 3 µg/m3 |
| Acetaldehyde | <3 | < 3 µg/m3 |
| Sum for+ace | <0.002 ppm | < 0.002 ppm |
| Carcinogenic | < 1 µg/m3 | < 1 µg/m3 |

**AIR PERMEABILITY**

|  |  |  |  |
| --- | --- | --- | --- |
| POSITIVE PRESSURE (PA) | LEAKAGE (M3/H/M2) | NEGATIVE PRESSURE (PA) | LEAKAGE (M3/H/M2) |
| 25 | 0.00 | 25 | 0.00 |
| 50 | 0.00 | 50 | 0.00 |
| 100 | 0.00 | 100 | 0.00 |
| 200 | 0.00 | 200 | 0.00 |
| 300 | 0.00 | 300 | 0.56 |
| 450 | 1.11 | 450 | 1.67 |
| 600 | 6.94 | 600 | 6.11 |

**PIPE END CONFIGURATIONS**

When testing pipes, one can choose not to cap (or close) the pipe, or cap the pipe inside the furnace, or outside the furnace, or on both sides. The configuration chosen depends on the intended application of the pipe and/or the installation environment.

The code defining if a pipe is capped is stated after the fire classification. For instance, EI 60 C/U which means the pipe was capped inside the furnace, and uncapped outside the furnace. The test configuration defines the approvals possible.

Our engineering judgment based on EN 1366-3:2009 are:

|  |  |  |
| --- | --- | --- |
| INTENDED USE OF PIPE | | PIPE END CONDITION 4) |
| Rainwater pipe, plastic | At drainage | U/U 1) |
| Not at drainage | C/C 2) |
| Drainage or sewage pipe, plastic | Ventilated drain | U/U 1) |
| Unventilated drain | U/C 1) |
| Drain w/water trap | U/C 1) |
| Not at drainage | C/C 2) |
| Pipe in closed circuit (water, gas, air, electricity etc.) | | C/C 2) 3) |
| Flue gas recovery system pipe, plastic | | U/C 1) |
| Pipe with open ends and ≥ 50cm length on both sides, plastic | | U/U 2) |
| Pipe supported by suspension system, metal | Fire rated support | C/U 1) |
| Non-fire rated | U/C 1) |
| Waste disposal shaft pipe, metal | | U/C 1) |

1) Suggested in EN 1366-3:2009. 2) AIS’s judgment based on tests. 3) Metal pipes should have fire rated support. 4) U/U classified fire seals cover C/U, U/C and C/C. C/U classified fire seals cover U/C and C/C. U/C classified fire seals cover C/C.

**ANALYSIS OF CPVC PIPES e.g. BLAZEMASTER**

Examination of the sealant contact regions of the cPVC pipe after removal of the sealant showed no evidence of visible discolouration or changes at the pipe surface.

AIS FR Acrylic sealant - FP 508 has also been tested for chemical resistance of a sealant when applied to a cPVC pipe. The sealant does not affect cPVC pipes; the tests showed no difference between the control and exposed results at Yield.

**TECHNICAL SPECIFICATION**

|  |  |
| --- | --- |
| Condition | Ready for use, acrylic based filler |
| Specific gravity | 1.56 – 1.60 |
| Flash point | None |
| Reaction to fire | B – s1, d0 |
| Air permeability | Air, smoke and gas tight tested to EN 1026: 2016 |
| Expansion in fire | 1 : 2-3 |
| Non-sticky | Max. 75 minutes |
| Film forming | Max. 25 minutes |
| Totally hardened | 3 to 5 days depending on thickness and temperature |
| Flexibility | 12.5% in mortar/concrete/masonry to EN ISO 9046 |
| Durability | Z2 intended for use in internal conditions with humidity classes other than Z1, excluding temperatures below 0 °C |
| BWR 3 | Use category IA1, S/W3 |
| Thermal conduct. | 0.845 W/mK (± 3%) @ 20mm depth |
| Storage | 18 months stored in unopened cartridges. To be stored in temperatures between +10 °C and +30 °C |
| Working life | 30 years |
| Service temp. | -20 to +70 °C |
| Application temp. | +5 to +30 °C |
| Compatibility | Suitable for use with most materials, but should not be used In direct contact with bituminous materials |
| Limitations | Should not be used in permanently damp areas or in joints with high movement |
| Classification | Sealant for fire rated joints and penetrations class EI 240 |
| Standard colours | Standard white, pure white, grey or red. Different batches may have minor colour deviations. |
| Colour codes | White: RAL 9002 / NCS S1002-Y  Grey: NCS: S5500-N |
| Packaging | Box containing 25 foils/cartridges each 300/310 ml |