Technical Submission Supporting Documentation

Project: London 4 - COLT

Index

Technical Data Sheet
Impertene Bitumen Primer

Product Description / Uses:
Impertene Bitumen Primer is a single component ready to use primer, based on an organic solvent bitumen solution. It is used as a roof and terrace preparer to be coated with bituminous membranes.

May be applied to a range of surfaces:

- Concrete
- Metals – mild steel, zinc & lead
- Slate, lightweight concrete screeds

Coverage Rates:
The coverage per litre is dependent upon the porosity of the surface.

Method of Application:
Impertene Bitumen Primer can be applied by brush, roller or long-handled brush according to the dimensions of the substrate to be treated.

Application Instructions:
- It is always advisable to shake Impertene Bitumen Primer before proceeding with its application.
- The bituminous membrane can be applied 15 minutes after laying of the primer. At this time, most of the solvent has already evaporated and use of flaming required to apply the membrane is no longer dangerous.
- It is also clear that during the application of Impertene Bitumen Primer, it is forbidden to smoke. In addition, avoid the accumulation of electrostatic charges, flames and sparks.
- Impertene Bitumen Primer given its formulation characteristics, is highly sensitive to temperature. Low temperatures increase the viscosity of the product and lengthen the drying time; conversely high temperatures, while not significantly affecting the viscosity of the product, shorten the drying time. Temperatures between 15°C and 30°C allow the obtaining of optimal applications without significant variations in solvent release times.
- Impertene Bitumen Primer can be applied directly on already rusted surfaces.
- The product contains solvents; its application must therefore be performed in well-ventilated areas.

Cleaning Tools:
Tools may be cleaned with White Spirit. Minor spillages should be wiped off surfaces immediately before the product has set. Major spillages should be mopped up immediately with an inert, absorbent material, such as sand and disposed of in accordance with regulations.

Packaging:
5L, 10L or 20L tins.

Storage Conditions (at 20°C):
Keep the product in its tightly closed packaging. In these conditions the product is stable for over 2 years.

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Limitations:

- Do not use in temperatures less than +5°C.
- It is the user's responsibility to ensure suitability for use. Safety Data Sheet available on request.
- Read the label carefully for essential health and safety information prior to use.

Technical Specification:

Composition	Based on organic solvent bitumens.
Product type	Single-component, ready to use. The product must not be diluted
Appearance	Black liquid.
Specific weight	g/dm3 950 (±50)
Viscosity Ford 4 cup at 20°C	15 ÷ 25 sec

Further Information:

In the event of further queries or problems concerning the use of this product, please contact MOY Technical Services.

ROOF ACCESSORIES

Safety Data Sheet
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1	Product Identifier		
	Product name:	Impertene Bitumen Primer	
	Product code:	WBPR0A - WBPR0D - WBPR0E	
1.2	Relevant identified uses of the substance or mixture and uses advised against		
	Intended Use:	Bituminous solvent primer for the building industry	
	Identified Uses:		
	Primer	ERC: 8d. PROC: 10, 8a. PC: 9a.	
	Uses Advised Against:		
	Dispersive use in non-ventilated rooms		
1.3	Details of the supplier of the safety data sheet	Imper Italia srl Via Rita Atria, 8 10079 MAPPANO (TO) Italia Tel: +39 011 2225499 Fax: +39 011 2625187 Email: safety@imper.it	
1.4	Emergency telephone number	National Poisons Information Service (NPIS) - Email: director.birmingham.unit@npis.org	
		Members of the public seeking specific information on poisons should contact: England and Wales: NHS 111 - dial 111; Scotland: NHS 24 - dial 111; N Ireland: Contact your local GP or pharmacist during normal hours; click here (www.gpoutofhours.hscni.net/) for GP services Out-of-Hours; Republic of Ireland: 01 809 2166	

SECTION 2: HAZARD IDENTIFICATION

2.1	Classification of the substance or mixture		
	The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.		
	Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.		
	Hazard classification and indication:		
	Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
	Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
	Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
	Specific target organ toxicity - repeated exposure,	H373	May cause damage to organs through prolonged or category 2
	Eye irritation, category 2	H319	Causes serious eye irritation.
	Skin irritation, category 2	H315	Causes skin irritation.
	Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

	Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.
2.2	Label elements		
	Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.		
	Hazard pictograms:		
			
	Signal words:	Danger	
	Hazard statements:	H225	Highly flammable liquid and vapour.
		H361d	Suspected of damaging the unborn child.
		H304	May be fatal if swallowed and enters airways.
		H373	May cause damage to organs through prolonged or repeated exposure.
		H319	Causes serious eye irritation.
		H315	Causes skin irritation.
		H336	May cause drowsiness or dizziness.
		H412	Harmful to aquatic life with long lasting effects.
	Precautionary statements:	P201	Obtain special instructions before use.
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P280	Wear protective gloves / protective clothing / eye protection / face protection.
		P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor.
		P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
		P370+P378	In case of fire: use CO2, foam or powder to extinguish.
2.3	Other hazards		
	On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.		

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1	Substances		
	Information not relevant		
3.2	Mixtures		
	Compound containing:	Mixture of bitumens, solvents, additives.	
	Contains:		
	Identification	x = Conc. %	Classification 1272/2008 (CLP)
	XYLENE (MIXTURE OF ISOMERS)		

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	CAS *EC* *INDEX* *Reg. no.*	*1330-20-7* *215-535-7* *601-022-00-9* *01-2119488216-32*	15 ≤ x < 24,9	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Skin Irrit. 2 H315, Classification note/notes according to Annex VI to the CLP Regulation: C
	TOLUENE			
	CAS *EC* *INDEX*	*108-88-3* *203-625-9* *601-021-00-3*	12 ≤ x < 13	Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336
	SOLVENT NAPHTA (PETROLEUM), LIGHT AROM			
	CAS *EC* *INDEX* *Reg. no.*	 *918-668-5* *01-2119455851-35*	5 ≤ x < 9	Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H335, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066
	N-BUTYL ACETATE			
	CAS *EC* *INDEX* *Reg. no.*	*123-86-4* *204-658-1* *607-025-00-1* *01-2119485493-29*	5 ≤ x < 9	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
	ETHYL ACETATE			
	CAS *EC* *INDEX* *Reg. no.*	*141-78-6* *205-500-4* *607-022-00-5* *01-2119475103-46*	3 ≤ x < 5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
	ACETONE			
	CAS *EC* *INDEX* *Reg. no.*	*67-64-1* *200-662-2* *606-001-00-8* *01-2119471330-49*	1 ≤ x < 3	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
	MESITYLENE			
	CAS *EC* *INDEX*	*108-67-8* *203-604-4* *601-025-00-5*	1 ≤ x < 2,5	Flam. Liq. 3 H226, STOT SE 3 H335, Aquatic Chronic 2 H411
	METHYL ETHYL KETONE			
	CAS *EC* *INDEX*	*78-93-3* *201-159-0* *606-002-00-3*	1 ≤ x < 3	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
	ETHYLBENZENE			
	CAS *EC* *INDEX*	*100-41-4* *202-849-4* *601-023-00-4*	1 ≤ x < 3	Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373
	STYRENE			
	CAS *EC*	*100-42-5* *202-851-5*	1 ≤ x < 3	Flam. Liq. 3 H226, Repr. 2 H361d, Acute Tox. 4 H332, STOT RE 1 H372, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Classification note/notes according to Annex VI to the CLP Regulation: D

	INDEX	*601-026-00-0*		
	4-METHYLPENTAN-2-ONE			
	CAS *EC* *INDEX*	*108-10-1* *203-550-1* *606-004-00-4*	1 ≤ x < 3	Flam. Liq. 2 H225, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335, EUH066
	HEPTANE			
	CAS *EC* *INDEX* *Reg. no.*	*142-82-5* *205-563-8* *601-008-00-2* *01-2119475515-33*	0,3 ≤ x < 0,6	Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1, Classification note/notes according to Annex VI to the CLP Regulation: C
	N-HEXANE			
	CAS *EC* *INDEX*	*110-54-3* *203-777-6* *601-037-00-0*	0,3 ≤ x < 0,6	Flam. Liq. 2 H225, Repr. 2 H361f, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411
	The full wording of hazard (H) phrases is given in section 16 of the sheet.			

SECTION 4: FIRST AID MEASURES

	Description of first aid measures	
4.1	EYES:	Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
	SKIN:	Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
	INHALATION:	Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
	INGESTION:	Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.
4.2	Most important symptoms and effects, both acute and delayed	
	Specific information on symptoms and effects caused by the product are unknown.	
4.3	Indication of any immediate medical attention and special treatment needed	
	Information not available	

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SECTION 5: FIREFIGHTING MEASURES

5.1	Extinguishing media		
	SUITABLE EXTINGUISHING EQUIPMENT		
	Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.		
5.2	Special hazards arising from the substance or mixture		
	HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE		
	Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.		
5.3	Advice for firefighters		
	GENERAL INFORMATION		
	Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.		
	SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS		
	Normal firefighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).		

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	Personal precautions, protective equipment and emergency procedures		
	Block the leakage if there is no hazard.		
	Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures. Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.		
6.2	Environmental precautions		
	The product must not penetrate into the sewer system or come into contact with surface water or ground water.		
6.3	Methods and material for containment and cleaning up		
	Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.		
6.4	Reference to other sections		
	Any information on personal protection and disposal is given in sections 8 and 13.		

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SECTION 7: HANDLING AND STORAGE

7.1	Precautions for safe handling		
	Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.		
7.2	Conditions for safe storage, including any incompatibilities		
	Store only in the original container. Store the containers sealed, in a well-ventilated place, away from direct sunlight. Store in a cool and well-ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.		
	Storage class TRGS 510 (Germany):	3	
7.3	Specific end use(s)		
	See the exposure scenarios attached to this safety datasheet.		

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	Control parameters		
	Regulatory References:		
	BGR	България	МИНИСТЕРСТВО НА ТРУДА И СОЦИАЛНАТА ПОЛИТИКА МИНИСТЕРСТВО НА ЗДРАВЕОПАЗВАНЕТО НАРЕДБА No 13 от 30 декември 2003 г (4 Септември 2018г)
	CZE	Česká Republika	Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
	DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
	DNK	Danmark	Bekendtgørelse om ændring af bekendtgørelse om grænseværdier for stoffer og materialer1- BEK nr 655 af 31/05/2018
	ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
	FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
	GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
	GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
	HRV	Hrvatska	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima

			izloženosti i biološkim graničnim vrijednostima (NN 91/18)
	HUN	Magyarország	A pénzügyminiszter 7/2018. (VIII. 29.) PM rendelete a munkahelyek kémiai biztonságáról szóló 25/2000. (IX. 30.) EüM–SZCSM együttes rendelet módosításáról
	ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
	NLD	Nederland	Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII
	POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
	PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
	ROU	România	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerinţelor minime de securitate şi sănătate în muncă pentru asigurarea protecţiei lucrătorilor împotriva riscurilor legate de prezenţa agenţilor chimici
	SVK	Slovensko	Nariadenie vlády č. 33/2018 Z. z. Nariadenie vlády Slovenskej republiky, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 355/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci v znení neskorších predpisov
	SVN	Slovenija	Uradni list Republike Slovenije 04.12.2018 - Uradnem listu RS št. 78 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
	SWE	Sverige	Hygieniska gränsvärden, AFS 2018:1
	TUR	Türkiye	KİMYASAL MADDELERLE ÇALIŞMALARDA SAĞLIK VE GÜVENLİK ÖNLEMLERİ HAKKINDA YÖNETMELİK - Resmi Gazete Tarihi: 12.08.2013 Resmi Gazete Sayısı: 28733
	EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
		TLV-ACGIH	ACGIH 2020

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XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	221	50	442	100	SKIN	
TLV	CZE	200	46	400	92	SKIN	
AGW	DEU	440	100	880	200	SKIN	
MAK	DEU	440	100	880	200	SKIN	
TLV	DNK	109	25			SKIN	E
VLA	ESP	221	50	442	100	SKIN	
VLEP	FRA	221	50	442	100	SKIN	
WEL	GBR	220	50	441	100	SKIN	
TLV	GRC	435	100	650	150		
GVI/KGVI	HRV	221	50	442	100	SKIN	
VLEP	ITA	221	50	442	100	SKIN	
TGG	NLD	210		442		SKIN	
NDS/NDSCh	POL	100		200		SKIN	
VLE	PRT	221	50	442	100	SKIN	
TLV	ROU	221	50	442	100	SKIN	
NPEL	SVK	221	50	442	100	SKIN	
MV	SVN	221	50	442	100	SKIN	
NGV/KGV	SWE	221	50	442	100	SKIN	
ESD	TUR	221	50	442	100	SKIN	
OEL	EU	221	50	442	100	SKIN	
TLV-ACGIH		434	100	651	150		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				12,5 mg/kg bw/d				
Inhalation	260 mg/m3	260 mg/m3	65,3 mg/m3	65,3 mg/m3	442 mg/m3	442 mg/m3	221 mg/m3	221 mg/m3
Skin				125 mg/kg bw/d				212 mg/kg bw/d

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TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	192	50	384	100	SKIN	
TLV	CZE	200	53,2	500	133	SKIN	
AGW	DEU	190	50	760	200	SKIN	
MAK	DEU	190	50	760	200	SKIN	
TLV	DNK	94	25			SKIN	E
VLA	ESP	192	50	384	100	SKIN	
VLEP	FRA	76,8	20	384	100	SKIN	
WEL	GBR	191	50	384	100	SKIN	
TLV	GRC	192	50	384	100		
GVI/KGVI	HRV	192	50	384	100	SKIN	
AK	HUN	190		380		SKIN	
VLEP	ITA	192	50			SKIN	
TGG	NLD	150		384			
NDS/NDSCh	POL	100		200		SKIN	
VLE	PRT	192	50	384	100	SKIN	
TLV	ROU	192	50	384	100	SKIN	
NPEL	SVK	192	50	384	100	SKIN	
MV	SVN	192	50	384	100	SKIN	
NGV/KGV	SWE	192	50	384	100	SKIN	
OEL	EU	192	50	384	100	SKIN	
TLV-ACGIH		75,4	20				

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,68	mg/l
Normal value in marine water	0,68	mg/l
Normal value for fresh water sediment	16,39	mg/kg
Normal value for marine water sediment	16,39	mg/kg
Normal value for water, intermittent release	0,68	mg/l
Normal value of STP microorganisms	13,61	mg/l
Normal value for the terrestrial compartment	2,89	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral								8,13 mg/kg bw/d
Inhalation					384 mg/m3	384 mg/m3	192 mg/m3	192 mg/m3
Skin								384 mg/kg bw/d

SOLVENT NAPHTA (PETROLEUM), LIGHT AROM

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		100	20			

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				11 mg/kg/d				
Inhalation				32 mg/m3				150 mg/m3
Skin				11 mg/kg/d				25 mg/kg/d

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N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	710		950		
TLV	CZE	950	200,45	1200	253,2	
AGW	DEU	300	62	600 (C)	124 (C)	
TLV	DNK	710	150			
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
WEL	GBR	724	150	966	200	
TLV	GRC	710	150	950	200	
GVI/KGVI	HRV	724	150	966	200	
AK	HUN	950		950		
TGG	NLD	150				
NDS/NDSCh	POL	240		720		
TLV	ROU	715	150	950	200	
NPEL	SVK	500	100	700	150	
MV	SVN	300	62	600	124	
NGV/KGV	SWE	500	100	700 (C)	150 (C)	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value for water, intermittent release	0,36	mg/l
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		2 mg/kg bw/d		2 mg/kg bw/d				
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	35,7 mg/m3	600 mg/m3	300 mg/m3	600 mg/m3	300 mg/m3
Skin		6 mg/kg bw/d		6 mg/kg bw/d	11 mg/kg bw/d			11 mg/kg bw/d

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ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	734	200	1468	400	
TLV	CZE	700	194,6	900	250,2	
AGW	DEU	730	200	1460	400	
MAK	DEU	750	200	1500	400	
TLV	DNK	540	150			
VLA	ESP	734	200	1468	400	
VLEP	FRA	1400	400			
WEL	GBR	734	200	1468	400	
TLV	GRC	734	200	1468	400	
GVI/KGVI	HRV	734	200	1468	400	
AK	HUN	734		1468		
VLEP	ITA	734	200	1468	400	
TGG	NLD	734		1468		
NDS/NDSCh	POL	734		1468		
VLE	PRT	734	200	1468	400	
TLV	ROU	400	111	500	139	
NPEL	SVK	734	200	1468	400	
MV	SVN	734	200	1468	400	
NGV/KGV	SWE	550	150	1100	300	
OEL	EU	734	200	1468	400	
TLV-ACGIH		1441	400			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,024	mg/l
Normal value for fresh water sediment	1,15	mg/kg
Normal value for marine water sediment	0,0115	mg/kg
Normal value of STP microorganisms	650	mg/l
Normal value for the terrestrial compartment	0,148	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				4,5 mg/kg bw/d				
Inhalation	734 mg/m3	734 mg/m3	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin				37 mg/kg bw/d				63 mg/kg bw/d

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ACETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	600		1400		
TLV	CZE	800	336,8	1500	631,5	
AGW	DEU	1200	500	2400 (C)	1000 (C)	
MAK	DEU	1200	500	2400	1000	
TLV	DNK	600	250			E
VLEP	FRA	1210	500	2420	1000	
WEL	GBR	1210	500	3620	1500	
TLV	GRC	1780		3560		
GVI/KGVI	HRV	1210	500			
AK	HUN	1210				
VLEP	ITA	1210	500			
TGG	NLD	1210		2420		
NDS/NDSCh	POL	600		1800		
VLE	PRT	1210	500			
TLV	ROU	1210	500			
NPEL	SVK	1210	500			
MV	SVN	1210	500	2420	1000	
NGV/KGV	SWE	600	250	1200 (C)	500 (C)	
ESD	TUR	1210	500			
OEL	EU	1210	500			
TLV-ACGIH			250		500	

Predicted no-effect concentration - PNEC

Normal value in fresh water	10,6	mg/l
Normal value for fresh water sediment	30,4	mg/kg
Normal value for marine water sediment	3,04	mg/kg
Normal value for water, intermittent release	21	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	33,3	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation						2420 mg/m3		1210 mg/m3
Skin						186 mg/kg bw/d		

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METHYL ETHYL KETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	590		885			
TLV	CZE	600	203,4	900	305,1		
AGW	DEU	600	200	600	200	SKIN	
MAK	DEU	600	200	600	200	SKIN	
TLV	DNK	145	50			SKIN	E
VLA	ESP	600	200	900	300		
VLEP	FRA	600	200	900	300	SKIN	
WEL	GBR	600	200	899	300	SKIN	
TLV	GRC	600	200	900	300		
GVI/KGVI	HRV	600	200	900	300		
AK	HUN	600		900		SKIN	
VLEP	ITA	600	200	900	300		
TGG	NLD	590		500		SKIN	
NDS/NDSCh	POL	450		900		SKIN	
VLE	PRT	600	200	900	300		
NPEL	SVK	600	200	900	300		
MV	SVN	600	200	900	300	SKIN	
NGV/KGV	SWE	150	50	900	300		
ESD	TUR	600	200	900	300		
OEL	EU	600	200	900	300		
TLV-ACGIH		590	200	885	300		

Predicted no-effect concentration - PNEC

Normal value in fresh water	55,8	mg/l
Normal value in marine water	55,8	mg/l
Normal value for fresh water sediment	284,7	mg/kg
Normal value of STP microorganisms	709	mg/l
Normal value for the terrestrial compartment	22,5	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			VND	600 mg/m3				
Skin							NEA	1161 mg/kg/d

MESITYLENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	100	20				
TLV	CZE	100	20,3	250	50,75		
AGW	DEU	100	20	200	40		
MAK	DEU	100	20	200	40		
TLV	DNK	100	20				E
VLA	ESP	100	20				
VLEP	FRA	100	20	250	50		
TLV	GRC	125	25				
GVI/KGVI	HRV	100	20				
AK	HUN	100					
VLEP	ITA	100	20				
TGG	NLD	100		200			
NDS/NDSCh	POL	100		170		SKIN	
VLE	PRT	100	20				
TLV	ROU	100	20				
NPEL	SVK	100	20				
MV	SVN	100	20	200	40		
NGV/KGV	SWE	100	20	170	35		
ESD	TUR	100	20				
OEL	EU	100	20				
TLV-ACGIH		123	25				

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STYRENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	85		215		
TLV	CZE	100	23,5	400	94	
AGW	DEU	86	20	172	40	
MAK	DEU	86	20	172	40	
TLV	DNK			105 (C)	25 (C)	SKIN
VLA	ESP	86	20	172	40	
VLEP	FRA	100	23,3	200	46,6	
WEL	GBR	430	100	1080	250	
TLV	GRC	425	100	1050	250	
GVI/KGVI	HRV	430	100	1080	250	SKIN
AK	HUN	50		50		
TGG	NLD	107				
NDS/NDSCh	POL	50		100		
TLV	ROU	50	12	150	35	
NPEL	SVK	90	20	200	50	
MV	SVN	86	20	344	80	
NGV/KGV	SWE	43	10	86 (C)	20 (C)	SKIN
TLV-ACGIH		85	20	170	40	

ETHYLBENZENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	435		545		SKIN	
TLV	CZE	200	46	500	115	SKIN	
AGW	DEU	88	20	176	40	SKIN	
MAK	DEU	88	20	176	40	SKIN	
TLV	DNK	217	50			SKIN	E
VLA	ESP	441	100	884	200	SKIN	
VLEP	FRA	88,4	20	442	100	SKIN	
WEL	GBR	441	100	552	125	SKIN	
TLV	GRC	435	100	545	125		
GVI/KGVI	HRV	442	100	884	200	SKIN	
AK	HUN	442		884		SKIN	
VLEP	ITA	442	100	884	200	SKIN	
TGG	NLD	215		430		SKIN	
NDS/NDSCh	POL	200		400		SKIN	
VLE	PRT	442	100	884	200	SKIN	
TLV	ROU	442	100	884	200	SKIN	
NPEL	SVK	442	100	884	200	SKIN	
MV	SVN	442	100	884	200	SKIN	
NGV/KGV	SWE	220	50	884	200	SKIN	
ESD	TUR	442	100	884	200	SKIN	
OEL	EU	442	100	884	200	SKIN	
TLV-ACGIH		87	20				

4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
TLV	BGR	50		200			
TLV	CZE	80	19,52	200	48,8	SKIN	
AGW	DEU	83	20	166	40	SKIN	
MAK	DEU	83	20	166	40	SKIN	
TLV	DNK	83	20			SKIN	E
VLA	ESP	83	20	208	50		
VLEP	FRA	83	20	208	50		
WEL	GBR	208	50	416	100	SKIN	
TLV	GRC	410	100	410	100		
GVI/KGVI	HRV	83	20	208	50		
AK	HUN	83		208			
VLEP	ITA	83	20	208	50		
TGG	NLD	104		208			
NDS/NDSCh	POL	83		200			
VLE	PRT	83	20	208	50		
NPEL	SVK	83	20	166	40	SKIN	
MV	SVN	83	20	208	50	SKIN	
NGV/KGV	SWE	83	20	200	50		
ESD	TUR	83	20	208	50		
OEL	EU	83	20	208	50		
TLV-ACGIH		82	20	307	75		

N-HEXANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	72	20			
TLV	CZE	70	19,88	200	56,8	SKIN
AGW	DEU	180	50	1440	400	
MAK	DEU	180	50	1440	400	
TLV	DNK	72	20			E
VLA	ESP	72	20			Como n-esano
VLEP	FRA	72	20			
WEL	GBR	72	20			
TLV	GRC	72	20			
GVI/KGVI	HRV	72	20			SKIN
AK	HUN	72				SKIN
VLEP	ITA	72	20			
TGG	NLD	72		144		
NDS/NDSCh	POL	72				SKIN
VLE	PRT	72	20			
TLV	ROU	72	20			
NPEL	SVK	72	20	140	40	
MV	SVN	72	20	576	160	
NGV/KGV	SWE	72	20	180	50	
OEL	EU	72	20			
TLV-ACGIH		176	50			SKIN

HEPTANE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	BGR	1600				
TLV	CZE	1000	244	2000	488	
MAK	DEU	2100	500	2100	500	
TLV	DNK	820	200			E
VLA	ESP	2085	500			Como n-Eptano
VLEP	FRA	1668	400	2085	500	
WEL	GBR	2085	500			
TLV	GRC	2000	500	2000	500	
GVI/KGVI	HRV	2085	500			SKIN
AK	HUN	2000				
VLEP	ITA	2085	500			
TGG	NLD	1200		1600		
NDS/NDSCh	POL	1200		2000		
VLE	PRT	2085	500			
TLV	ROU	2085	500			
NPEL	SVK	2085	500			
MV	SVN	2085	500	2085	500	
NGV/KGV	SWE	800	200	1200 (C)	300 (C)	
ESD	TUR	2085	500			
OEL	EU	2085	500			
TLV-ACGIH		1639	400	2049	500	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation								2085 mg/m3
Skin								300 mg/kg/d

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2 Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
When choosing risk management measures and operating conditions, consult the exposure scenarios attached. Provide an emergency shower with face and eye wash station.
Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage

	personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).
	HAND PROTECTION
	In cases of potential contact, use chemical resistant gloves such as neoprene, PVC, nitrile with a minimum thickness of 0.38 mm, or equivalent protective barrier material with high level performance. For conditions of use in continuous contact, a minimum permeability time of 480 minutes in accordance with the CEN standard EN 420, EN 374. Working conditions can significantly affect the suitability and durability of the gloves. Replace gloves at the first signs of wear.
	SKIN PROTECTION
	Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing. Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
	EYE PROTECTION
	Wear airtight protective goggles (see standard EN 166).
	RESPIRATORY PROTECTION
	If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
	ENVIRONMENTAL EXPOSURE CONTROLS
	The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways. For information on controlling environmental exposure, see the exposure scenarios attached to this safety datasheet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Physical and chemical properties		
	Properties:	Value	Information
	Appearance	liquid	
	Colour	black	
	Odour	characteristic	
	Odour threshold	Not available	
	pH	Not available	
	Melting point / freezing point	Not available	
	Initial boiling point	> 35 °C	
	Boiling range	Not available	
	Flash point	< 23 °C	
	Evaporation Rate	Not available	
	Flammability of solids and gases	Not available	
	Lower inflammability limit	Not available	
	Upper inflammability limit	Not available	
	Lower explosive limit	Not available	

	Upper explosive limit	Not available	
	Vapour pressure	Not available	
	Vapour density	Not available	
	Relative density	0,930+/-0,030	
	Solubility	insoluble in water	
	Partition coefficient: n-octanol/water	Not available	
	Auto-ignition temperature	245 °C	
	Decomposition temperature	Not available	
	Viscosity	Not available	
	Explosive properties	Not available	
	Oxidising properties	Not available	
9.2	Other information		
	VOC (Directive 2004/42/EC):	60,88 % - 566,15	g/litre
	VOC (volatile carbon):	49,71 % - 462,35	g/litre

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	
	There are no particular risks of reaction with other substances in normal conditions of use.	
	TOLUENE	Avoid exposure to: light.
	N-BUTYL ACETATE	Decomposes on contact with: water.
	ETHYL ACETATE	Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.
	ACETONE	Decomposes under the effect of heat.
	METHYL ETHYL KETONE	Reacts with: light metals, strong oxidants. Attacks various types of plastic materials. Decomposes under the effect of heat.
	STYRENE	Polymerises at temperatures above 65°C/149°F. Fire hazard. Possibility of explosion. Added with an inhibitor that requires a small amount of dissolved oxygen at temperatures < 25°C/77°F.
	4-METHYLPENTAN-2-ONE	Reacts violently with: light metals. Attacks various types of plastic materials.
10.2	Chemical stability:	
	The product is stable in normal conditions of use and storage.	
10.3	Possibility of hazardous reactions	
	The vapours may also form explosive mixtures with the air.	
	XYLENE (MIXTURE OF ISOMERS)	
	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air	
	TOLUENE	
	Risk of explosion on contact with: fuming sulphuric acid, nitric acid, silver perchlorate, nitrogen dioxide, non-metal halogenates, acetic acid, organic nitro compounds. May form explosive mixtures with: air. May react dangerously with: strong oxidising agents, strong acids, sulphur.	
	N-BUTYL ACETATE	
	Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.	
	ETHYL ACETATE	

	Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.
	ACETONE
	Risk of explosion on contact with: bromine trifluoride, fluorine dioxide, hydrogen peroxide, nitrosyl chloride,2-methyl-1,3 butadiene, nitromethane, nitrosyl perchlorate. May react dangerously with: potassium tert-butoxide, alkaline hydroxides, bromine, bromoform, isoprene, sodium, sulphur dioxide, chromium trioxide, chromyl chloride, nitric acid, chloroform, peroxymonosulphuric acid, phosphoryl oxychloride, chromosulphuric acid, fluorine, strong oxidising agents, strong reducing agents. Develops flammable gas on contact with: nitrosyl perchlorate.
	METHYL ETHYL KETONE
	May form peroxides with: air, light, strong oxidising agents. Risk of explosion on contact with: hydrogen peroxide, nitric acid, sulphuric acid. May react dangerously with: oxidising agents, trichloromethane, alkalis. Forms explosive mixtures with: air.
	STYRENE
	May react dangerously with: peroxides, strong acids. May polymerise on contact with: aluminium trichloride, azobisisobutyronitrile, dibenzoyl peroxide, sodium. Risk of explosion on contact with: butyllithium, chlorosulphuric acid, diterbutyl peroxide, oxidising substances, oxygen.
	ETHYLBENZENE
	Reacts violently with: strong oxidants. Attacks various types of plastic materials. May form explosive mixtures with: air.
	4-METHYLPENTAN-2-ONE
	May react violently with: oxidising agents. Forms peroxides with: air. Forms explosive mixtures with: hot air.
10.4	Conditions to avoid
	Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.
	N-BUTYL ACETATE
	Avoid exposure to: moisture, sources of heat, naked flames.
	ETHYL ACETATE
	Avoid exposure to: light, sources of heat, naked flames.
	ACETONE
	Avoid exposure to: sources of heat, naked flames.
	METHYL ETHYL KETONE
	Avoid exposure to: sources of heat.
	STYRENE
	Avoid contact with: oxidising substances, copper, strong acids.
	4-METHYLPENTAN-2-ONE
	Avoid exposure to: sources of heat.
10.5	Incompatible materials
	Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.
	N-BUTYL ACETATE
	Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.
	ETHYL ACETATE
	Incompatible with: acids, bases, strong oxidants, aluminium, nitrates, chlorosulphuric acid. Incompatible materials: plastic materials.
	ACETONE
	Incompatible with: acids, oxidising substances.
	METHYL ETHYL KETONE
	Incompatible with: strong oxidants, inorganic acids, ammonia, copper, chloroform.

	STYRENE
	Incompatible materials: plastic materials.
	4-METHYLPENTAN-2-ONE
	Incompatible with: oxidising substances, reducing substances.
10.6	Hazardous decomposition products
	In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.
	ACETONE
	May develop: ketenes, irritant substances.
	ETHYLBENZENE
	May develop: methane, styrene, hydrogen, ethane.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects
	Metabolism, toxicokinetics, mechanism of action and other information
	Information not available
	Information on likely routes of exposure
	XYLENE (MIXTURE OF ISOMERS) WORKERS: inhalation; contact with the skin. POPULATION: ingestion of contaminated food or water; inhalation of ambient air. TOLUENE WORKERS: inhalation; contact with the skin. POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance. N-BUTYL ACETATE WORKERS: inhalation; contact with the skin. STYRENE WORKERS: inhalation; contact with the skin. ETHYLBENZENE WORKERS: inhalation; contact with the skin. POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance. N-HEXANE WORKERS: inhalation; contact with the skin. POPULATION: inhalation of ambient air.
	Delayed and immediate effects as well as chronic effects from short and long-term exposure
	XYLENE (MIXTURE OF ISOMERS) Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

TOLUENE
Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

N-BUTYL ACETATE
In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

STYRENE
The acute toxicity by inhalation at 1000 ppm affects the central nervous system with headache and dizziness, lack of coordination; irritation of the eye and respiratory tract mucous membranes occurs at 500 ppm. Chronic exposure causes depression of the central and peripheral nervous system with loss of memory, headache and drowsiness starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis; dermatosis. Repeated exposure, at low doses of inhaled substance, causes irreversible changes to hearing and may cause changes in colour vision. No certain data is available on the reversibility of the visual impairment. Repeated skin exposure causes irritation. The substance degreases the skin, which can cause dryness and cracking.

ETHYLBENZENE
As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

N-HEXANE
The chronic toxic effect concerns the central and peripheral nervous system; this is also affected by an acute effect. The irritating action affects the respiratory tract, conjunctiva and skin.

Interactive effects

XYLENE (MIXTURE OF ISOMERS)
Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

TOLUENE
Certain drugs and other industrial products can interfere with the metabolism of the toluene.

N-BUTYL ACETATE
A case of acute intoxication been reported involving a 33-year-old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

STYRENE
The metabolism of the substance is inhibited by ethanol. When styrene is photo-oxidised with ozone and nitrogen dioxide, as in the formation of smog, products highly irritating for the human eye may

ensue.

N-HEXANE
Simultaneous exposure to toluene or methyl ethyl ketone inhibits the metabolism of the substance and the formation of 2,5-hexanedione (INRS, 2008).

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	>2000 mg/kg
SOLVENT NAPHTA (PETROLEUM), LIGHT AROM	
LD50 (Oral)	3492 mg/kg Rat
LD50 (Dermal)	> 3160 mg/kg Rabbit
XYLENE (MIXTURE OF ISOMERS)	
LD50 (Oral)	3523 mg/kg Rat
LD50 (Dermal)	4350 mg/kg Rabbit
LC50 (Inhalation)	26 mg/l/4h Rat
TOLUENE	
LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat
ETHYLBENZENE	
LD50 (Oral)	3500 mg/kg Rat
LD50 (Dermal)	15354 mg/kg Rabbit
LC50 (Inhalation)	17,2 mg/l/4h Rat
MESITYLENE	
LD50 (Oral)	6000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rat
STYRENE	
LD50 (Oral)	5000 mg/kg Rat
LD50 (Dermal)	11,8 mg/l/4h Rat
N-HEXANE	
LD50 (Oral)	5000 mg/kg Rat
LD50 (Dermal)	3000 mg/kg Rabbit
METHYL ETHYL KETONE	
LD50 (Oral)	2737 mg/kg Rat
LD50 (Dermal)	6480 mg/kg Rabbit
LC50 (Inhalation)	23,5 mg/l/8h Rat
4-METHYLPENTAN-2-ONE	
LD50 (Oral)	2080 mg/kg Rat
LD50 (Dermal)	> 16000 mg/kg Rabbit
LC50 (Inhalation)	> 8,2 mg/l/4h Rat

	N-BUTYL ACETATE		
	LD50 (Oral)	> 6400 mg/kg Rat	
	LD50 (Dermal)	> 5000 mg/kg Rabbit	
	LC50 (Inhalation)	21,1 mg/l/4h Rat	
	SKIN CORROSION / IRRITATION		
	Causes skin irritation		
	SERIOUS EYE DAMAGE / IRRITATION		
	Causes serious eye irritation		
	RESPIRATORY OR SKIN SENSITISATION		
	Does not meet the classification criteria for this hazard class		
	GERM CELL MUTAGENICITY		
	Does not meet the classification criteria for this hazard class		
	CARCINOGENICITY		
	Does not meet the classification criteria for this hazard class		
	XYLENE (MIXTURE OF ISOMERS)		
	Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".		
	TOLUENE		
	Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".		
	STYRENE		
	Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2002). Classified as "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).		
	ETHYLBENZENE		
	Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000). Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).		
	N-HEXANE		
	The US Environmental Protection Agency (EPA) affirms that "the data was inadequate for an assessment of the carcinogenic potential"- (US EPA file on-line 2015).		
	REPRODUCTIVE TOXICITY		
	Suspected of damaging the unborn child		
	STOT - SINGLE EXPOSURE		
	May cause drowsiness or dizziness		
	STOT - REPEATED EXPOSURE		

	May cause damage to organs
	ASPIRATION HAZARD
	Toxic for aspiration

SECTION 12: ECOLOGICAL INFORMATION

	This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on aquatic environment.		
12.1	Toxicity		
	SOLVENT NAPHTA (PETROLEUM), LIGHT AROM		
	LC50 - for Fish	9,2 mg/l/96h Fish	
	EC50 - for Crustacea	3,2 mg/l/48h Dafnia	
	HEPTANE		
	LC50 - for Fish	375 mg/l/96h Tilapia mossambica	
	EC50 - for Crustacea	82,5 mg/l/48h Daphnia magna	
	EC50 - for Algae / Aquatic Plants	1,5 mg/l/72h Algae	
	MESITYLENE		
	LC50 - for Fish	12,52 mg/l/96h Carassius auratus	
	EC50 - for Crustacea	6 mg/l/48h Daphnia magna	
12.2	Persistence and degradability		
	The paraffinic hydrocarbons fraction may be considered biodegradable in water and in air. They distribute mostly in the air. The small non-biodegradable amount which spreads into water tends to accumulate in fish.		
	XYLENE (MIXTURE OF ISOMERS)		
	Solubility in water	100 - 1000 mg/l	
	Degradability: information not available		
	HEPTANE		
	Solubility in water	0,1 - 100 mg/l	
	Rapidly degradable		
	TOLUENE		
	Solubility in water	100 - 1000 mg/l	
	Rapidly degradable		
	ETHYLBENZENE		
	Solubility in water	1000 - 10000 mg/l	
	Rapidly degradable		
	MESITYLENE		
	Solubility in water	0,1 - 100 mg/l	
	Not Rapidly degradable		
	STYRENE		

	Solubility in water	320 mg/l	
	Rapidly degradable		
	N-HEXANE		
	Solubility in water	0,1 - 100 mg/l	
	Rapidly degradable		
	ACETONE		
	Rapidly degradable		
	METHYL ETHYL KETONE		
	Solubility in water	> 10000 mg/l	
	Rapidly degradable		
	4-METHYLPENTAN-2-ONE		
	Solubility in water	> 10000 mg/l	
	Rapidly degradable		
	ETHYL ACETATE		
	Solubility in water	> 10000 mg/l	
	Rapidly degradable		
	N-BUTYL ACETATE		
	Solubility in water	1000 - 10000 mg/l	
12.3	Bioaccumulative potential		
	XYLENE (MIXTURE OF ISOMERS)		
	Partition coefficient: n-octanol/water	3,12	
	BCF	25,9	
	HEPTANE		
	Partition coefficient: n-octanol/water	4,5	
	BCF	552	
	TOLUENE		
	Partition coefficient: n-octanol/water	2,73	
	BCF	90	
	ETHYLBENZENE		
	Partition coefficient: n-octanol/water	3,6	
	MESITYLENE		
	Partition coefficient: n-octanol/water	3,42	
	STYRENE		
	Partition coefficient: n-octanol/water	2,96	
	BCF	74	
	N-HEXANE		
	Partition coefficient: n-octanol/water	4	
	BCF	501, 187	

	ACETONE		
	Partition coefficient: n-octanol/water	-0,23	
	BCF	3	
	METHYL ETHYL KETONE		
	Partition coefficient: n-octanol/water	0,3	
	4-METHYLPENTAN-2-ONE		
	Partition coefficient: n-octanol/water	1,9	
	ETHYL ACETATE		
	Partition coefficient: n-octanol/water	0,68	
	BCF	30	
	N-BUTYL ACETATE		
	Partition coefficient: n-octanol/water	2,3	
	BCF	15,3	
12.4	Mobility in soil		
	XYLENE (MIXTURE OF ISOMERS)		
	Partition coefficient: soil/water	2,73	
	HEPTANE		
	Partition coefficient: soil/water	2,38	
	MESITYLENE		
	Partition coefficient: soil/water	2,87	
	STYRENE		
	Partition coefficient: soil/water	2,55	
	N-HEXANE		
	Partition coefficient: soil/water	3,34	
	4-METHYLPENTAN-2-ONE		
	Partition coefficient: soil/water	2,008	
	N-BUTYL ACETATE		
	Partition coefficient: soil/water	< 3	
12.5	Results of PBT and vPvB assessment		
	On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.		
12.6	Other adverse effects	Information not available	

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods		

	Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations. Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. Waste transportation may be subject to ADR restrictions. CONTAMINATED PACKAGING Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14: TRANSPORT INFORMATION

14.1	UN number			
	ADR / RID, IMDG, IATA:	1263		
14.2	UN proper shipping name			
	ADR / RID:	PAINT		
	IMDG:	PAINT		
	IATA:	PAINT		
14.3	Transport hazard class(es)			
	ADR / RID:	Class: 3	Label: 3	
	IMDG:	Class: 3	Label: 3	
	IATA:	Class: 3	Label: 3	
14.4	Packing group			
	ADR / RID, IMDG, IATA:	III		
14.5	Environmental hazards			
	ADR / RID:	NO		
	IMDG:	NO		
	IATA:	NO		
14.6	Special precautions for user			
	ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5L	Tunnel restriction code: (D/E)
		Special Provision:		

		640D		
	IMDG:	EMS: F-E, S-E	Limited Quantities: 5L	
	IATA:	Cargo:	Maximum quantity: 60L	Packaging instructions: 364
		Pass.:	Maximum quantity:5L	Packaging instructions: 353
		Special Instructions:	A3, A72, A192	
14.7	Transport in bulk according to Annex II of Marpol and the IBC Code			
	Information not relevant			

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture		
	Seveso Category - Directive 2012/18/EC:	P5c	
	Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006		
	Product		
	Point	3 - 40	
	Contained substance		
	Point	48	TOLUENE
	Substances in Candidate List (Art. 59 REACH)		
	On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.		
	Substances subject to authorisation (Annex XIV REACH)		
	None		
	Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:		
	None		
	Substances subject to the Rotterdam Convention:		
	None		
	Substances subject to the Stockholm Convention:		
	None		
	Healthcare controls		
	Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.		
	VOC (Directive 2004/42/EC):		
	Binding primers.		
15.2	Chemical safety assessment		
	A chemical safety assessment has been performed for the following contained substances:		
	▪ XYLENE (MIXTURE OF ISOMERS)		
	▪ TOLUENE		

	▪ SOLVENT NAPHTA (PETROLEUM), LIGHT AROM		
	▪ N-BUTYL ACETATE		
	▪ ETHYL ACETATE		
	▪ ACETONE		
	▪ HEPTANE		

SECTION 16: OTHER INFORMATION

	Text of hazard (H) indications mentioned in section 2-3 of the sheet:	
	Flam. Liq. 2	Flammable liquid, category 2
	Flam. Liq. 3	Flammable liquid, category 3
	Repr. 2	Reproductive toxicity, category 2
	Acute Tox. 4	Acute toxicity, category 4
	STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
	Asp. Tox. 1	Aspiration hazard, category 1
	STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
	Eye Irrit. 2	Eye irritation, category 2
	Skin Irrit. 2	Skin irritation, category 2
	STOT SE 3	Specific target organ toxicity - single exposure, category 3
	Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
	Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
	Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
	Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
	H225	Highly flammable liquid and vapour.
	H226	Flammable liquid and vapour.
	H361d	Suspected of damaging the unborn child.
	H361f	Suspected of damaging fertility.
	H312	Harmful in contact with skin.
	H332	Harmful if inhaled.
	H372	Causes damage to organs through prolonged or repeated exposure.
	H304	May be fatal if swallowed and enters airways.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H319	Causes serious eye irritation.
	H315	Causes skin irritation.
	H335	May cause respiratory irritation.
	H336	May cause drowsiness or dizziness.
	H400	Very toxic to aquatic life.
	H410	Very toxic to aquatic life with long lasting effects.
	H411	Toxic to aquatic life with long lasting effects.
	H412	Harmful to aquatic life with long lasting effects.
	EUH066	Repeated exposure may cause skin dryness or cracking.
	Use descriptor system:	
	ERC 8d	Widespread use of non- reactive processing aid (no inclusion into or onto article, outdoor)
	PC 9a	Coatings and paints, thinners, paint removers
	PROC 10	Roller application or brushing
	PROC 8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	LEGEND:	

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY:

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

EXPOSURE SCENARIOS

Substance	XYLENE (MIXTURE OF ISOMERS)
Scenario Title	XYLENE (MIXTURE OF ISOMERS)
Revision nr.	1
File	EN_215_535_7_1.pdf
Substance	TOLUENE
Scenario Title	TOLUENE
Revision nr.	1
File	EN_203_625_9_1.pdf
Substance	SOLVENT NAPHTA (PETROLEUM), LIGHT AROM
Scenario Title	SOLVENT NAPHTA (PETROLEUM), LIGHT AROM
Revision nr.	1
File	EN_918_668_5_1.pdf
Substance	N-BUTYL ACETATE
Scenario Title	N-BUTYL ACETATE
Revision nr.	1
File	EN_204_658_1_1.pdf
Substance	ETHYL ACETATE
Scenario Title	ETHYL ACETATE
Revision nr.	1
File	EN_205_500_4_1.pdf
Substance	ACETONE
Scenario Title	ACETONE
Revision nr.	1
File	EN_220_662_2_1.pdf
Substance	HEPTANE
Scenario Title	HEPTANE
Revision nr.	1
File	EN_205_563_8_1.pdf

Last update date (Imper Italia)	31/01/2020 (Rev 12)
Moy Materials Ltd version prepared by	Martin Bidewell

Safety Data Sheet
Impertene Bitumen Primer

The data contained in this document is correct on date of issue and complete to the best of our knowledge as it applies to this product. However, it does not constitute a guarantee for any specific product features and does not establish a legally valid contractual relationship. The information given does not represent an assurance and it is the user's responsibility to ensure that the information is suitable and complete for the respective use.

Technical Data Sheet
HARDROCK® Multi-Fix (DD)

Product Description / Use:
HARDROCK® Multi-Fix (DD) is a high density, non-combustible thermal insulation board which has also been tested for acoustic applications and fire resistance. It has been proven to improve the ability of lightweight flat roof systems to control both noise ingress and egress through the building envelope.

HARDROCK® Multi-Fix (DD) is a stone wool insulation board faced with a mineral-coated white fleece, compatible with a wide range of MOY adhered and mechanically fixed waterproofing systems - including bitumen, single-ply and liquid membranes, as well as green roof systems.

Benefits:

- Compatible with most MOY roofing systems
- The product presents no smoke hazard, and will not contribute to fire growth in any stages of a fire (including the fully developed stage of a fire)
- The product is deemed to be non-combustible in accordance with UK building regulations
- LPCB approved to highest classification, LPS1181: Part 1 EXT – A rated constructions
- Excellent acoustic reduction, absorption and impact (rain noise) performance
- Solutions to meet all BB93 (Education) and HTM08- 01 (Healthcare) acoustic requirements
- Acoustic solutions provide opportunity for additional BREEAM points
- Dimensionally stable
- Consistent thermal performance with no blowing agents. Zero ODP and GWP
- HARDROCK® Multi-Fix (DD) can be recycled and reprocessed, reducing landfill and costs
- Also available as a tapered insulation system, to create the falls in the roof (HARDROCK® Multi-Fix (DD) Tapered)

Certification:

For FM Approval must be used as part of an FM Approved Assembly.

Reaction to Fire:
HARDROCK® Multi-Fix (DD) has a Euroclass rating of A2-s1, d0. (HARDROCK® Multi-Fix (DD) Underlay Slab has a Euroclass rating of A1).

System Fire Testing:
Test Standard: CEN/TS 1187: 2012
Classification Standard: BS EN 13501-5: 2016*

* Determination of external fire performance is a system test which will be influenced by the components within the roofing system.

Whilst HARDROCK® Multi-Fix (DD) can be included in compliant $B_{ROOF\ (t4)}$ systems, always check with MOY Technical Services for the very latest information on fire testing carried out.

Technical Data Sheet
HARDROCK® Multi-Fix (DD)

Thermal Conductivity:
The thermal conductivity (or lambda value) shows how well a material can conduct heat. The lower the thermal conductivity, the better the insulator.

HARDROCK® Multi-Fix (DD) has a thermal conductivity of 0.039 W/mK.

Board Sizes:
- 1000 x 1200 mm

Thicknesses:
- HARDROCK® Multi-Fix (DD); 60 mm, 85 mm, 105 mm, 115 mm, 150 mm, 185 mm
- HARDROCK® Underlay Slab for multi-layer systems (DD); 150 mm.

Consult MOY Materials Ltd as thicknesses may be subject to availability and minimum order volumes

Weight:
HARDROCK® Multi-Fix (DD) has an approximate weight of 3.5 kg/m^2 at a thickness of 100mm.

Compressive strength:
Compressive strength is a material's ability to maintain its structural integrity when compressed. The higher the compressive strength the better the material is at maintaining its structural integrity.

The compressive strength of HARDROCK® Multi-Fix (DD) typically exceeds 70 kPa at 10% compression.

Technical Specification:
Detailed product characteristics for this product are given in Declaration of Performance [DoP].

Sustainability Information:
Relying on entrapped air for its thermal properties, HARDROCK® insulation does not contain gases that have ozone depleting potential (ODP) or global warming potential (GWP) and as such complies with the relatively modest threshold of GWP<5.

HARDROCK® Multi-Fix (DD) can be recycled and reprocessed reducing landfill and costs.

Installation and handling:
For information on installation and handling please refer to specific product guidance and the project specification.

Storage:
Insulation products must be kept dry and protected from wet weather during storage and installation.

Disposal:
In accordance with REACH health and environment regulations, there are no hazardous classifications associated with HARDROCK® mineral wool in respect to physical, health and environmental considerations, however information for this product are given in the Safety Data Sheet.

ROOF ACCESSORIES

Safety Data Sheet
Mineral Wool Insulation

SAFETY DATA SHEET (SDS) IN ACCORDANCE WITH ANNEX II TO REGULATION (EC) NO 1907/2006 (REACH), AS AMENDED BY COMMISSION REGULATION (EU) NO 2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1	Product identifier:	Mineral Wool Insulation	
1.2	Relevant identified uses of the substance/mixture and uses advised against:	Thermal insulation, acoustic insulation and fire protection in building construction applications. No uses advised against for physical, health and environmental considerations as covered by REACH. In terms of site use, the product shall be used in accordance with technical guidance published by ROCKWOOL®.	
1.3	Details of the supplier of the safety data sheet:	ROCKWOOL® Pencoed, Bridgend, CF35 6NY Tel: 01656 862621 Fax: 01656 862302 Email of person responsible: sds@rockwool.com	
1.4	Emergency telephone number:	ROCKWOOL® Customer Solutions and Sales Support 9am- 5pm Tel: 0871 222 1780 Email: sds@rockwool.com	

SECTION 2: HAZARD IDENTIFICATION

2.1	Classification of the substance or mixture	There is no hazard statement associated with this material. ROCKWOOL® mineral wool is not classified as dangerous according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP).	
2.2	Label elements	The overall conclusion in accordance with the CLP regulation, REACH registration and the Globally Harmonised System (GHS) is that there are no hazardous classifications associated with ROCKWOOL® fibres in respect to physical, health and environmental considerations.	
2.3	Other hazards	Use of high-speed cutting tools can generate dust. If in contact with constant heat >175ºC, the binder will be slowly broken down. Further information can be found in Section 8.	

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1	Substances		

Safety Data Sheet
Mineral Wool Insulation

Substance	EC identification number	REACH registration number	Content (% weight)	Classification, labelling and packaging (EU Regulation (CE) 1272/2008)
Stone wool[1]	926-099-9	01-211-947-2313-44	95-100%	Not classified[2]
Synthetic thermosetting polymer binder			0-5%	Not classified
Mineral oil			0-0.5%	Not classified
Silicon oil/emulsion[3]			0-0.5%	Not classified

[1] *Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content greater than 18% by weight and fulfilling one of the Nota Q conditions of Regulation 1272/2008.*

[2] *Not classified H351 "suspected of causing cancer". Stone wool fibres are not classified carcinogenic according to the Nota Q of Regulation 1272/2008. ROCKWOOL® stone wool products do not contain CLP classified substances >0.1%.*

[3] *Silicon oil/emulsion is used in place of mineral oil in certain ROCKWOOL® products such as preformed pipe sections.*

3.2	Facing materials	ROCKWOOL® may be supplied faced with various common building materials such as aluminium foil, mineral tissue/scrim/fleece, polethylene/polypropylene film, wire mesh, bitumen, plaster board, cementitious board, ablative coatings, etc.	

SECTION 4: FIRST AID MEASURES

4.1	Description of first aid measures		
	Inhalation:	Remove from exposure. Rinse the throat and clear dust from airways.	
	Skin:	If itching occurs, remove contaminated clothing and wash skin gently with cold water and mild soap.	
	Eye:	Rinse abundantly with water for at least 15 minutes.	
	Ingestion:	Drink plenty of water if accidentally ingested.	
4.2	Most important symptoms and effects, both acute and delayed	The mechanical effect of coarse fibres in contact with throat, skin or eyes may cause temporary itching/ inconvenience.	
4.3	Indication of any immediate medical attention and special treatment needed	None required. If any adverse reaction or discomfort continues from any of the above exposures, seek professional medical advice.	

SECTION 5: FIREFIGHTING MEASURES

5.1	Extinguishing media		
	Suitable extinguishing media:	Water, foam, carbon dioxide (CO2), and dry powder	
	Unsuitable extinguishing media:	None	
5.2	Special hazards arising from the substance or mixture	None special. Use normal body and respiratory protection for fire.	
5.3	Advice for firefighters	The unfaced products are non-combustible, some packaging materials or facings may however be combustible.	

Safety Data Sheet
Mineral Wool Insulation

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	Personal precautions, protective equipment and emergency procedures	In case of presence of high concentrations of dust, use the same personal protective equipment as mentioned in section 8.	
6.2	Environmental precautions	None required	
6.3	Methods and materials for containment and cleaning up	Vacuum cleaner or dampen with water spray prior to sweeping up.	
6.4	Reference to other sections	For personal protection equipment, see section 8. For waste disposal, see section 13.	

SECTION 7: HANDLING AND STORAGE

7.1	Precautions for safe handling	No specific measures. Preferably use a knife for cutting. If a power tool is used, provide effective dust extraction. Ensure adequate ventilation of workplace. See section 8. Avoid unnecessary handling of unwrapped product. See section 8.	
7.2	Conditions for safe storage, including any incompatibilities		
	Technical measures:	No special measures necessary.	
	Suitable storage conditions:	Products should be kept dry, if possible in original packaging.	
	Incompatible materials:	None.	
	Packaging material:	Products are typically packed in polyethylene film, cardboard and/or on wooden pallets.	

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	Control parameters	Workplace exposure limit (WEL) 5mg/m3 gravimetric measure (total inhalable dust) and 2 fibres/ml airborne fibre limit, 8-hour time weighted averages. HSE guidance assumes that the gravimetric measure would be reached before the fibre measure. (Ref. HSE EH40).	
8.2	Exposure controls		
8.2.1	Appropriate engineering controls	No specific requirements	
8.2.2	Individual protection measures, such as personal protective equipment		
	Eye protection:	Wear goggles if working above shoulders or where there is heavy dust development. Eye protection to EN 166 is advised.	
	Hand protection:	Use gloves conforming with EN 388 to avoid itching.	
	Skin protection:	Cover exposed skin.	
	Respiratory protection:	When working in unventilated areas or during operations which can generate emission of (various) dusts, wearing a	

		disposable face mask in accordance with EN 149 FFP1 is recommended. At high temperatures not usually found in building construction (>175ºC), the product binder will slowly decompose and trace gases will be released. When high temperature appliances are first put into service, gases should be vented to control exposure to fumes or appropriate respirators used.	

The following text and pictograms are printed on packaging:

The mechanical effect of fibres in contact with skin may cause temporary itching.

	Cover exposed skin. When working in unventilated area, wear disposable face mask.
	Rinse in cold water before washing.
	Clean area using vacuum equipment.
	Ventilate working area if possible.
	Waste should be disposed of according to local regulations.
	Wear goggles when working overhead.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	Information on basic physical and chemical properties		

	a) Appearance	Solid, grey-green	
	b) Odour	Odourless	
	c) Odour threshold	Not relevant. No odour	
	d) pH	Not relevant. Solid	
	e) Melting point	>1000ºC	
	f) Initial boiling point and range	Not relevant. Solid	
	g) Flash point	Not relevant. Non-combustible (ref. UK and Ireland Building Regulations)	
	h) Evaporation rate	Not relevant. Solid	
	i) Flammability	Not relevant. Non-combustible (ref. UK and Ireland Building Regulations)	
	j) Upper/lower flammability or explosive limits	Not relevant. Non-combustible (ref. UK and Ireland Building Regulations)	
	k) Vapour pressure	Not relevant. Solid	
	l) Vapour density	Not relevant. Solid	
	m) Relative density	Depends on product (typ. between 20 and 300 kg/m^3)	
	n) Solubility (ies)	Generally chemically inert and insoluble in water	
	o) Partition coefficient n-octanol/water	Not relevant. Insoluble in water	
	p) Auto-ignition temperature	Not relevant. Non-combustible (ref. UK and Ireland Building Regulations)	
	q) Decomposition temperature	When heated to approx 175ºC for the first time, release of binder decomposition products occurs	
	r) Viscosity	Not relevant. Solid	
	s) Explosive properties	Not relevant. Non-combustible (ref. UK and Ireland Building Regulations)	
	t) Oxidising properties	Not relevant. Non-oxidising	
9.2	Other information	No further chemical or physical properties to report.	

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Not reactive	
10.2	Chemical stability	Stable	
10.3	Possibility of hazardous reactions	Not reactive	
10.4	Conditions to avoid	None specified	
10.5	Incompatible materials	None specified	
10.6	Hazardous decomposition products	When heated to approx 175ºC for the first time, release of binder decomposition products occurs. See 8.2.2	

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects		
	a) Acute toxicity	No acute toxicity	
	b) Irritation	In the case of coarser fibres there can be mechanical effects on skin, upper respiratory system (mucous membranes) and eyes that can cause temporary, self-fading effects (e.g. itching). No chemical	

		effects ensue.	
	c) Corrosivity	No corrosivity	
	d) Sensitisation	No sensitisation	
	e) Repeated dose toxic	No repeated dose toxicity	
	f) Carcinogenicity	None. Owing to its high bio-solubility, the fibre used in ROCKWOOL® stone wool insulation materials is assessed as free from suspicion of possible carcinogenic effects in accordance with Regulation (EC) No 1272/2008 (ref. Nota Q). In October 2001, the International Agency for Research on Cancer (IARC) classified rock (stone) wool insulation as Group 3 (not classifiable as to its carcinogenicity in humans) ie not suspected of causing cancer in humans.	
	g) Mutagenicity	No mutagenicity	
	h) Toxicity for reproduction	No toxicity for reproduction	

SECTION 12: ECOLOGICAL INFORMATION

12.1	Toxicity	None. This product is not expected to cause harm to animals or plants during normal conditions of use. Stone wool is principally made from non scarce rock material and recycled stone wool.	
12.2	Persistence and degradability	None	
12.3	Bioaccumulative potential	None	
12.4	Mobility in soil	None	
12.5	Results of PBT and vPvB assessment	No assessment required	
12.6	Other adverse effects	Relying on entrapped air for its thermal properties, the products do not, and never have used blowing agents with Ozone Depleting Potential or Global Warming Potential. No flame retardants are added.	

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods	ROCKWOOL® material is recyclable. Please refer to our website www.rockwool.co.uk for more information. ROCKWOOL® insulation is classified as non-hazardous waste. ROCKWOOL® insulation waste is covered by the non-hazardous entry "17 06 04 insulation materials other than those mentioned in 17 06 01 and 17 06 03" in the European Waste Catalogue, established by EC Decision 2000/532/EC (hazardous waste). Under landfill regulations ROCKWOOL® insulation waste is categorised as "waste accepted at landfills for non-hazardous waste" in accordance with EC Decision 2003/33/EC	

		(landfill acceptance criteria).	

SECTION 14: TRANSPORT INFORMATION

14.1	UN number	Not applicable	
14.2	UN proper shipping name	Not applicable	
14.3	Transport hazard class(es)	Not applicable	
14.4	Packing group	Not applicable	
14.5	Environmental hazards	Not applicable	
14.6	Special precautions for user	Not specified	

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/ legislation specific for the substance or mixture		
	The overall conclusion in accordance with the CLP, GHS and REACH regulations is that there are no hazardous classifications associated with ROCKWOOL® fibres in respect to physical, health and environmental aspects.		
15.2	Chemical safety assessment	No assessment required	

SECTION 16: OTHER INFORMATION

	This safety data sheet has been prepared in accordance with Annex II to Regulation (EC) No 1907/2006 (REACH), as amended by Commission Regulation (EU) No 2015/830.	
	Although REACH Regulations do not require a safety data sheet to be provided for ROCKWOOL® stone wool insulation, this format is used by ROCKWOOL® to provide standardized health and safety information.	
	All stone wool insulation products supplied by ROCKWOOL® Limited are made of fibres exonerated from classification as a carcinogen in accordance with Regulation (EC) No. 1272/2008 (ref. Nota Q).	
	ROCKWOOL® fibres are subject to independent assessment by EUCEB.	
	Membership of the EUCEB certification scheme is voluntary and certifies compliance with the parameters laid down in Nota Q, as defined by Regulation (EC) No. 1272/2008.	
	This data sheet does not constitute a workplace assessment.	
	The information provided represents the state of our knowledge regarding this material at the date of its publication.	
	The information provided does not constitute a product specification and no warranty expressed or implied is hereby made.	
	The information relates only to the specific material designated when used in applications it has been designed for. This information may not be valid for such material used in combination with any other materials or in any other processes, unless specified in the text.	

For Adhered Applications Please Source A Suitable Adhesive.
For Further Information Please Contact the MOY Materials Technical Department On 01245 707 449

ALL OFF CUTS MUST BE SAVED UNTIL PROJECT IS COMPLETE - ALLOWANCES HAVE BEEN MADE FOR ROOF LIGHT DEFLECTOR(S)

Notes(s):

Contractor To Confirm Sizes And Heights On Site Prior To Delivery Of The Proposed Tapered Scheme

Scheme Designed On The Assumption Of A Flat Level Deck.

U Value Calculation(s) Based On A

200mm Concrete

Deck Construction.

Drawn & Designed From The Following Source(s):

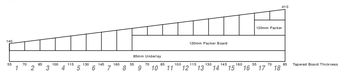
Section - GL 1 (3)

TAPERED BOARD LEGEND

Schedule		Fall
Type: Rockwool Multi-fix		
A	40 - 60	1:60
B	60 - 80	1:60
C	80 - 100	1:60
D	100 - 120	1:60
E	120 - 140	1:60
G	160 - 180	1:60
H	180 - 200	1:60
I	200 - 220	1:60
J	220 - 240	1:60
K	240 - 260	1:60
L	260 - 280	1:60
M	280 - 300	1:60
N	300 - 320	1:60
O	320 - 340	1:60
P	340 - 360	1:60
1	140 - 155	1:80
2	155 - 170	1:80
3	170 - 185	1:80
4	185 - 200	1:80
5	200 - 215	1:80
6	215 - 230	1:80
7	230 - 245	1:80
8	245 - 260	1:80
9	260 - 275	1:80
10	275 - 290	1:80
11	290 - 305	1:80
12	305 - 320	1:80
13	320 - 335	1:80
14	335 - 350	1:80
15	350 - 365	1:80
16	365 - 380	1:80
17	380 - 395	1:80
18	395 - 410	1:80
Flat 30	30	
Flat 90	90	
Flat 120	120	
Flat 150	150	

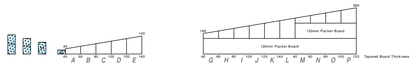
Material: Rockwool Multi-fix

Multi Layered Tapered Build Up Section - 1:80 (Not To Scale)



Material: Rockwool Multi-fix

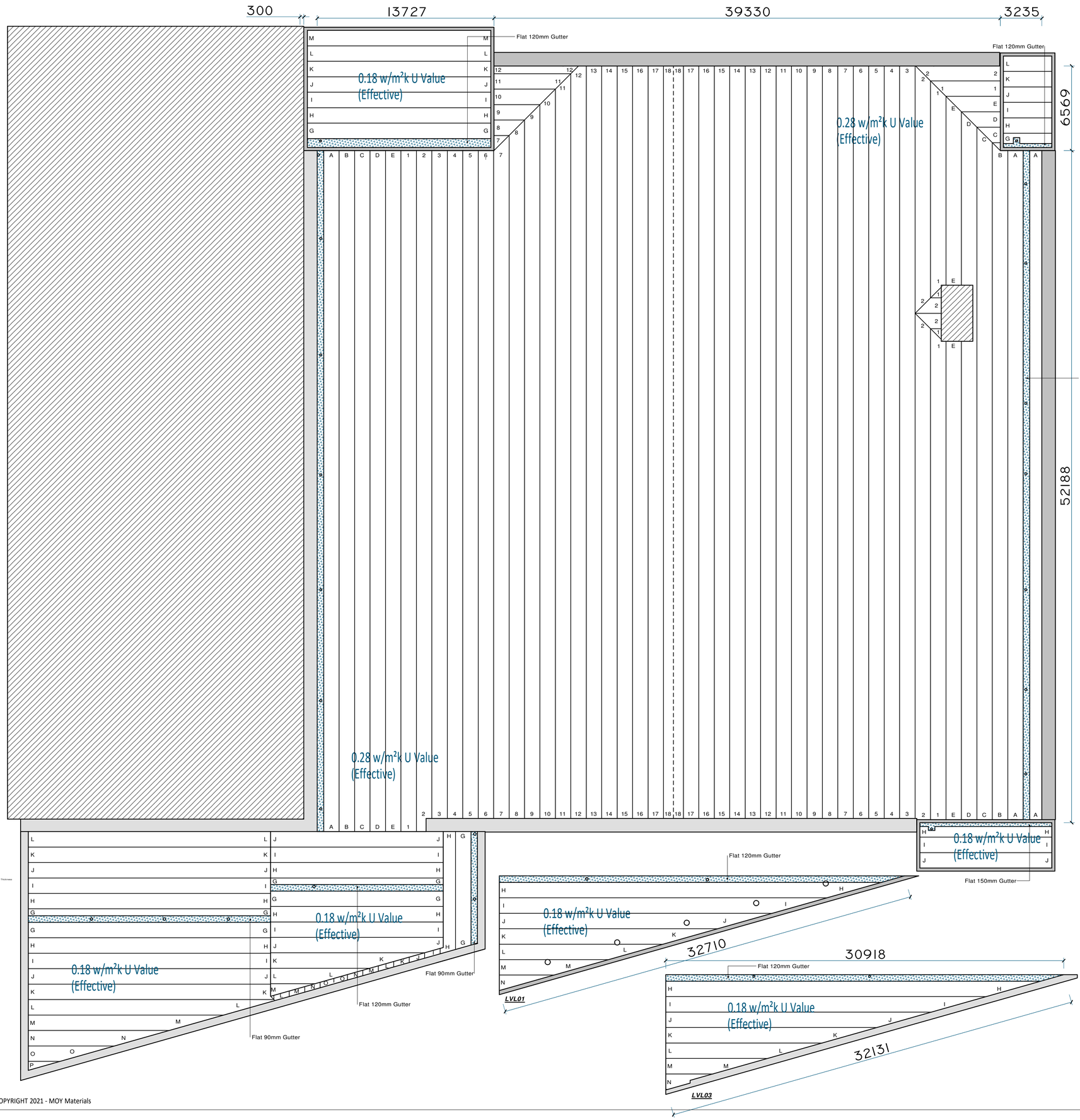
Multi Layered Tapered Build Up Section - 1:60 (Not To Scale)



Flat Infill

Flat Gutters (May Hold Water)

Roof Area	Fall
4120m²	1:60
U Value* See Drawing (EFFECTIVE)	Material: Tapered Rockwool MultiFix



DO NOT SCALE from this drawing. Only figured dimensions are to be taken from this drawing.
This drawing assumes there are no hollows or backfalls in the roof deck, unless shown.
The Contractor must verify all dimensions on site before commencing any work or shop drawings.
Unloading and storage of materials is the responsibility of the Contractor. Insulation products must always be stored in dry conditions. Day joints should be sealed at the end of each day.
Materials should be installed in accordance with the relevant codes of practice and this drawing. Where practical, boards should be laid with staggered joints. Raise upstands/kerbs/rooflights etc. to suit as necessary. Treated timber battens of 5mm less than the insulation thickness, should be provided and installed to protect exposed insulation edges by the Contractor. Quotations are based on the scheme as shown in this drawing and include infill boards and gutter/sump boards where shown. Fillets/upstand boards/flat boards are excluded unless specifically shown in our quotation. Any materials required over and above the quantities given, will be charged accordingly. all boards are supplied as either full or half boards as shown. Sufficient material will be supplied to allow for square, raking cutting, and mitres which are not conventional 90° as supplied. All part boards should be retained and used whenever possible. all cutting to be carried out on site by the Contractor. The Contractor must report any discrepancies before commencing work. If this drawing exceeds the quantities taken in any way, the Technician is to be informed before work is initiated.

Alterations to the scheme must not be completed without MOY Materials referencing

Whilst the information on this drawing is to the best of our knowledge,in terms of truth and accuracy, all liability for errors and omissions, damage or loss resulting here from is hereby excluded.

Tapered insulation drawings maybe drawn outside of the guidance in BS:6229:2018 due to building and design constraints. In the event that any element of the drawing does not comply with BS:6229:2018, please seek approval from the project design team and/or specifier

* All U Value Schemes Are Calculated And Compliant To BS EN ISO 6946:2017 Annex E Where Applicable

Outlet Locations TBC

Provisional Scheme Subject To Comment

Rev	Date	Notes	By
F	16/03/22	Additional Roof Areas	EH
E	03/02/22	Gutter Location Changed	BR
D	11/10/21	Area Omitted + Drainage Added	NT
C	08/10/21	Addional Areas Added To Scheme	HP
B	06/10/21	Roofs Added - U Values Adjusted	NT
A	01/10/21	Drawing Issued For Approval & Comment	-

MOY
Victoria House (4th Floor) Victoria Road Chelmsford CM1 1JR
T: 01245 707 449 E: info@moymaterials.co.uk

Status: **PRELIMINARY**

Drawing Title: Colt London

Scale	Date
1:150	01/10/21
Sheet Size: A1	Drawn By: B.R
Drawing Number: TP8106_21.01	Rev.: F

MOY – WATERPROOFING SYSTEM SPECIALISTS

Project Information

Reference	TP8106_21.01 - F
Date	20 January 2023
Project	Colt London

Construction Type

Element : Flat roof - Uvalue Element 1

Conventional warm flat roof

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Outside surface resistance	-	-	0.040		
Single Ply	1.5	0.160	0.009		
Tapered Rockwool MultiFix Insulation	d0=160.0	0.039	4.103		
Polythene, 1000 gauge (0.12mm) (BS5250)	-	-	-		L:0 0.000W/m²K
Concrete Deck (150mm)	150.0	1.701	0.050		L:0 0.000W/m²K
Inside surface resistance	-	-	0.100		
Total thickness	**311.5mm**				

U-value = 0.18W/m²K

U-value, Combined Method : 0.182W/m²K (upper/lower limit 4.302 / 4.302m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors

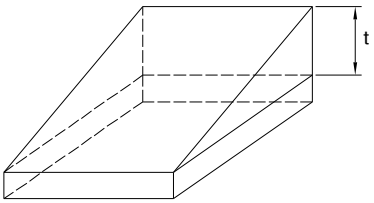
Air gaps, Delta Ug = 0.000W/m²K

Tapered Insulation Details

Description: Tapered Rockwool MultiFix Insulation
Minimum tapered layer thickness: 160.0 mm
lambda: 0.039 W/mK
Total Area: 941.670m²
Total UA: 171.648W/K
Average U-value: 0.182W/m²K

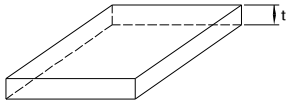
Rectangular area

Reference	d0 (mm)	lambda (W/m.K)	t (mm)	Area (m²)	U-value (W/m².K)	UA (W/K)
G	160.0	0.039	20.0	86.76	0.220	19.055
H	180.0	0.039	20.0	181.77	0.197	35.877
I	200.0	0.039	20.0	167.15	0.179	29.957
J	220.0	0.039	20.0	156.66	0.164	25.712
K	240.0	0.039	20.0	113.99	0.151	17.256
L	260.0	0.039	20.0	97.46	0.140	13.690
M	280.0	0.039	20.0	49.98	0.131	6.549
N	300.0	0.039	20.0	16.47	0.123	2.022
O	320.0	0.039	20.0	6.38	0.116	0.737
P	340.0	0.039	20.0	0.85	0.109	0.093



Flat boards

Reference	d0 (mm)	lambda (W/m.K)	t (mm)	Area (m²)	U-value (W/m².K)	UA (W/K)
Flat 120mm	-	0.039	120.0	47.19	0.305	14.405
Flat 150mm	-	0.039	150.0	3.23	0.247	0.798
Flat 90mm	-	0.039	90.0	13.78	0.399	5.497



MOY – WATERPROOFING SYSTEM SPECIALISTS

Project Information

Reference	TP8106_21.01 - F
Date	20 January 2023
Project	Colt London

Construction Type

Element : Flat roof - Uvalue Element 1

Conventional warm flat roof

Internal surface emissivity : High External surface emissivity : High

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Pitch (º)	Bridge details Air gaps (Level, Delta U")
Outside surface resistance	-	-	0.040		
Single Ply	1.5	0.160	0.009		
Tapered Rockwool MultiFix Insulation	d0=160.0	0.039	4.103		
Polythene, 1000 gauge (0.12mm) (BS5250)	-	-	-		L:0 0.000W/m²K
Concrete Deck (150mm)	150.0	1.701	0.050		L:0 0.000W/m²K
Inside surface resistance	-	-	0.100		
Total thickness	**311.5mm**				

U-value = 0.23W/m²K

U-value, Combined Method : 0.231W/m²K (upper/lower limit 4.302 / 4.302m²K/W, dUf 0.0000, dUg 0.0000, dUp0.0000, dUr0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors

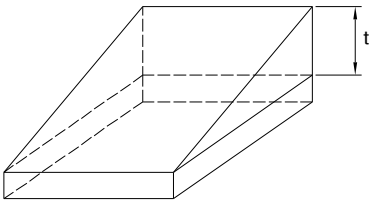
Air gaps, Delta Ug = 0.000W/m²K

Tapered Insulation Details

Description: Tapered Rockwool MultiFix Insulation
Minimum tapered layer thickness: 160.0 mm
lambda: 0.039 W/mK
Total Area: 3176.590m²
Total UA: 734.347W/K
Average U-value: 0.231W/m²K

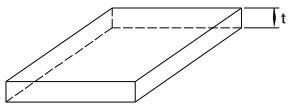
Rectangular area

Reference	d0 (mm)	lambda (W/m.K)	t (mm)	Area (m²)	U-value (W/m².K)	UA (W/K)
1	140.0	0.039	15.0	133.74	0.251	33.620
10	275.0	0.039	15.0	142.37	0.134	19.133
11	290.0	0.039	15.0	145.25	0.128	18.561
12	305.0	0.039	15.0	143.80	0.122	17.515
13	320.0	0.039	15.0	140.24	0.116	16.316
14	335.0	0.039	15.0	140.24	0.111	15.617
15	350.0	0.039	15.0	140.24	0.107	14.976
16	365.0	0.039	15.0	140.24	0.103	14.385
17	380.0	0.039	15.0	140.24	0.099	13.839
18	395.0	0.039	15.0	90.13	0.095	8.569
2	155.0	0.039	15.0	141.45	0.229	32.422
3	170.0	0.039	15.0	132.36	0.211	27.879
4	185.0	0.039	15.0	132.36	0.195	25.789
5	200.0	0.039	15.0	132.36	0.181	23.990
6	215.0	0.039	15.0	132.36	0.169	22.426
7	230.0	0.039	15.0	133.73	0.159	21.272
8	245.0	0.039	15.0	136.61	0.150	20.477
9	260.0	0.039	15.0	139.49	0.142	19.768
A	40.0	0.039	20.0	175.14	0.682	119.457
B	60.0	0.039	20.0	126.17	0.504	63.631
C	80.0	0.039	20.0	128.70	0.400	51.523
D	100.0	0.039	20.0	127.72	0.332	42.400
E	120.0	0.039	20.0	129.24	0.284	36.652



Flat boards

Reference	d0 (mm)	lambda (W/m.K)	t (mm)	Area (m²)	U-value (W/m².K)	UA (W/K)
Flat 30mm	-	0.039	30.0	52.41	1.033	54.130



Technical Data Sheet
AQUAPANEL® Cement Board Rooftop

Product Description / Use:
AQUAPANEL® Cement Board Rooftop is a lightweight cement board made of aggregated Portland cement with coated glass fibre mesh embedded in the front and back surfaces.

It is moisture and mold resistant, non-combustible and robust, adding structural strength and durability to the entire roofing system. It meets the requirements of category D, class 2 in compliance with EN 12467.

12.5mm thick and available in various board sizes.

The ends are cut square and edges are reinforced for extra strength (the EasyEdge®). The panel provides a solid base that withstands extreme weather conditions.

Characteristics:
- Recommended for accessible roofs
- Strong, robust, impact-resistant and durable
- High compressive strength
- Weather and 100% water-resistant
- Non-combustible (Class A1)
- Can be cut to shape using “score and snap” technique
- Simple and easy to install

Certification:

BBA-UKTA-0836-22/6407.
Can be used as part of an FM Approved system.

System Fire Testing:
Test Standard: CEN/TS 1187: 2012
Classification Standard: BS EN 13501-5: 2016 *

* Determination of external fire performance is a system test which will be influenced by the components within the roofing system.

Whilst AQUAPANEL® Cement Board Rooftop can be included in compliant B_{ROOF} systems, always check with MOY Technical Services for the very latest information on fire testing carried out.