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1. OBJECTIVES

This document describes how the **DOLIUM® One-Way Kegs** must be treated during handling, storage, filling, dispensing and disposal; in order to ensure the proper use of the **DOLIUM® One-Way Kegs** and to guarantee the **users safety** under all circumstances. Dispack-Projects NV (DOLIUM®) cannot be held responsible in case of non-compliance to the prescribed Handling & Safety instructions (ref. General terms and conditions).

The Handling & Safety instructions contain amongst other topics, the description of safety procedures, actions, points of attention, and equipment that are necessary to protect people against accidents, injuries, misuse and abuse of the polymer kegs, as well as those which are necessary to avoid negative impact on the environment while disposing **DOLIUM® One-Way Kegs**.

2. TRANSMITTING and SHARING OF INSTRUCTIONS

The Handling & Safety instructions are part of the agreement governing the sale of the products by Dispack-Projects NV (the Seller) to the client (the Buyer). The Buyer expressly warrants that it will ensure proper transmission of such Handling & Safety instructions to the **DOLIUM® One-Way Kegs'** end-users.

For the avoidance of doubt, we recommend every user to check the national or other applicable legislation with regards to food packaging, transport and recycling obligations.

The team of **DOLIUM® One-Way Kegs** (Dispack-Projects NV) is available to the customers and clients for any information:

info@dolium.eu www.dolium.eu www.doliumkegs.com

*Instructions can also be downloaded or viewed at <u>www.dolium.eu</u> or <u>www.doliumkegs.com /DoliumDocumentation</u>



3. HANDLING & SAFETY INSTRUCTIONS:



- Use the kegs only for their proper purpose: the DOLIUM® One-Way Kegs are recyclable pressurized PET kegs, for single trip use of beverages only, i.e. non-returnable, as alternative to stainless steel kegs for professional draught applications.
- Use professional equipment for filling the kegs: the DOLIUM® One-Way Kegs are equipped with standard fitting systems as per customer's request, fully compatible with existing filling lines and subject to adapted temperature and pressure settings.
- Use professional equipment for gas supply and gas pressure regulation: the use of a gas regulator is mandatory for maintaining working pressure at maximum 3,5 bar or 50 psi.
- Use professional equipment for connecting and dispensing the kegs: the DOLIUM[®] One-Way Kegs are equipped with standard fitting systems as per customer's request and are fully compatible with existing draught installations, conditional the necessary temperature and pressure settings have been respected and the required and legal safety features are present on the equipment.
- Depressurize emptied kegs after use as soon as possible: after use, when emptied, kegs still have high residual pressure inside, equal to the pressure at draught; it is strongly recommended to depressurize the kegs immediately by use of the integrated Pressure Relief Valve (PRV), preferably outside, or at least in a well-ventilated area. For more details: see 3.3 for gasses and Carbon-dioxide; see 3.4 for PRV user instructions.
- Store empty or filled kegs at 0° C < Storage temperature < 35° C. The lower the temperature, the lower the pressure, so the safer.
 - The lower the temperature, the better for beverage quality.
- Keep away from cleaning agents as alkaline, caustic hydroxides or soapy cleaning products with pH > 9, causing chemical embrittlement and risk to burst.
- Keep away from direct sunlight or other heat sources whilst this can increase temperature and induce higher pressure inside the keg.
- Keep away from wind by storing the kegs in a protective area.
- Keep away from electrical equipment or lighting bulbs.
- Keep away from animals.
- Keep away from children and consumers: the DOLIUM[®] One-Way Kegs are for professional purposes only and cannot be considered as toys or any other 2nd life purpose, not even when emptied and/or depressurized.









3.1. General Instructions: DO NOT's...

- Do not over-pressurize kegs! Keep pressure at maximum of 3, 5 bar 50 psi Too high pressure might result in a burst of the container (see section 3.7.5.)
- Do not tamper with the spear (keg valve system) or keg.
- Do not deliberately drop or impact the spear, neck or body of the keg.
- Do not clean, repair, maintain or reuse the DOLIUM[®] One-Way Kegs.
- Do not pierce the flexible body of the DOLIUM[®] One-Way Kegs in any way; as the pressurized keg body is composed of flexible PET material, piercing will result into burst and might cause unsafe situations.
- Do not weaken or burn the keg not even after use.
- Do not heat the empty or filled kegs whilst this can increase temperature and as such also pressure inside the keg. Do not expose to temperatures > 50°C
- Do not climb stacked kegs neither use kegs for construction purposes.

3.2. Food safety

- The assembled keg is composed of materials which are compliant with the relevant European directives and US-FDA legislation for food contact materials. Food safety declarations of the sourcing companies and migration reports are available at Dispack-Projects NV.
- The production of the keg complies with the requirements of the GMP legislations.
- The keg is suitable for beverages with an alcohol content up to 15% (US) and 20% (EU) for long term storage at room temperature or below.



3.3. CO_2 - carbon dioxide or mixed (CO_2/N_2) gasses - Safety Instructions

- Assure that all users are informed of CO₂ hazards and CO₂ user instructions. These are available at your CO₂ supplier. Read them carefully.
- CO₂ is a non-toxic, odorless and colorless gas that is heavier than air. As such, CO₂ replaces oxygen from the air, resulting in risk of suffocation at concentrations higher than 5%. CO₂ concentrations as from 9% are lethal.
- Make sure the CO₂ is of food quality certified, with purity rate > 99,8 %.
- Make sure CO₂ bottles cannot drop. Fix them properly with a chain or similar.
- Use CO₂ bottles only with an appropriate CO₂ regulator and an adjacent pressure relief valve. NEVER connect a CO₂ bottle directly to a keg as instant high pressure could lead to immediate burst.
- It is strongly recommended to install a CO₂ alarm, especially in very small or not well-ventilated storage rooms or cellars.



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3.4. Automatic Pressure Relief Valve (PRV)

- The **DOLIUM®** One-Way Kegs PRV is an innovative and patented feature. The automatic "Pressure Relief Valve" (PRV) has a dual purpose which allows the pressure to be released automatically when it exceeds 4,8 bar during storage or transport, which then automatically closes when it reaches 2 bar.
- Likewise, this valve can be activated manually to release pressure or depressurize the keg after emptying to prepare for recycling (see section 3.8.)



Exhibit #1

Pressure relief valve (PRV) integrated

Release pressure easily with screwdriver

3.5. Palletizing, stacking, storage and transport of empty and filled kegs

- Palletization: good palletization is important in order to avoid the sliding, 3.5.1 falling or destabilization. We recommend:
 - The top surface of the pallet should not be slippery to prevent the kegs from sliding off the pallet. The bottom chimes of the DOLIUM® One-Way Kegs are provided with a knurling pattern in order to prevent them from sliding.

Exhibit #2

- Ensure less than 50 mm over- or under hang at each side of the pallet.
- Beware of unstable stacking on pallets: fix them well by use of strapping.
- For filled kegs strap the contour of the pallets in horizontal direction at each layer (as seen in Exhibit #2).
- Palletization patterns depends on the keg types and pallet types (as seen in Exhibit #3, Page 5):

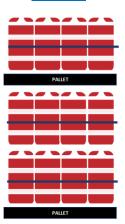




Exhibit #3 12,5 L Slimline MINI 20L Slimline 20 L Prime 30 L Prime Volume 12,5L Volume 20L Volume 201 Volume 30L Diameter 243mm Diameter 243mm Diameter 301mm Diameter 301mm Height 423mm Height 572mm Height 423mm Height 572mm **CP1** Pallet **CP2/Euro Pallet CP1** Pallet **CP2/Euro Pallet** allet size: 1200x1000x150 llet size: 1200x1000x150 Pallet size: 1200x800x150 Pallet size: 1200x800x150 Stack: 20 kegs x 5 layers Stack: 11 kegs x 4 layers Stack: 11 kegs x 5 layers Stack: 20 kegs x 4 layers Kegs per pallet: 100 kegs Kegs per pallet: 44 kegs egs per pallet: 80 kegs Kegs per pallet: 55 kegs D-108 Pallet D-108 Pallet allet size: 1200x1080x150 allet size: 1200x1080x150 Stack: 23 kegs x 4 layers Stack: 23 kegs x 5 layers egs per pallet: 92 kegs legs per pallet: 115 kegs

3.5.2 Pallet Label:

- Each pallet of the DOLIUM[®] One-Way Kegs include a pallet label for identification and warehouse management purposes (see Exhibit #4):
- We highly recommend customers either to scan the information via QR Code or record the data manually.
 <u>Exhibit #4</u>





3.5.3. Stacking, storage and transport:

- Storage of <u>empty</u> kegs: **ATTENTION!**
 - **Keep out** of the wind by protective storage: light-weight kegs (even palletized), are not wind stable.
 - Keep out of sunlight.
- Store empty or filled kegs preferably at 0° C < Storage temperature < 35° C.</p>
- Use a forklift with armored cage for warehouse activities and pallet handling.
- While loading /unloading of trucks, trains and containers: avoid open spaces between pallets.
- Ambient conditions during transport:
 - No exposure to extreme temperatures: 0° C < Storage temperature < 35° C
 - No exposure to direct sunlight
 - No exposure to wind

WAREHOUSE STACKING-EMPTY KEGS (Static):

EMF The additi	MOST ADVANCE TTY K onal pallets are re wrapping is remove		G				PAL								PAL PAL			
Keg Type Pallet Type Weight/Height				Stacking Layers														
KegType	Pallet Type	Weight/Height									• •							
Кед Туре		Weight/Height	11	ligh		21	ligh				g Layers ligh			4 H	ligh		5 H	ligh
Кед Туре	Pallet Type CP1 Pallet Dimensions: 120*100	Weight/Height Height (mm/ inch)	1 H 581	ligh 22,8	1004	2 H 39,5	ligh 1162	45,7	1427		• •	68,6	1850	4 H 72,8	ligh 2324	91,5	5 H 2273	-
	CP1 Pallet Dimensions: 120*100 Kegs per pallet: 100 (5 layers)			-	1004 61		-	45,7 171	1427 83	31	ligh	68,6 257	1850 105		-	91,5 343		89,
	CP1 Pallet Dimensions: 120*100 Kegs per pallet: 100 (5 layers) D-108	Height (mm/inch)	581	22,8		39,5	1162			3 H 56,1	ligh 1743	/-		72,8	2324		2273	89, 27
Keg Type 12,5 Liter Slim	CP1 Pallet Dimensions: 120*100 Kegs per pallet: 100 (5 layers)	Height (mm/ inch) Weight (kg/pound)	581 39	22,8 85	61	39,5 134	1162 78	171	83	3 H 56,1 182	ligh 1743 117	257	105	72,8 231	2324 156	343	2273 127	89, 27 89,
	CP1 Regs per pallet: 120*100 Kegs per pallet: 120*(5 layers) D-108 Pallet Dimensions: 120*108 Kegs per pallet: 115 (5 layers) CP1	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch)	581 39 581	22,8 85 22,8	61 1004	39,5 134 39,5	1162 78 1162	171 45,7	83 1427	3 F 56,1 182 56,1	ligh 1743 117 1743	257 68,6	105 1850	72,8 231 72,8	2324 156 2324	343 91,5	2273 127 2273	89, 27 89,
12,5 Liter Slim	CP1 Pallet Dimensions: 120*100 Kegs per pallet: 100 (5 layers) D-108 Pallet Dimensions: 120*108 Kegs per pallet: 115 (5 layers)	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound)	581 39 581 45,3	22,8 85 22,8 99	61 1004 70,6	39,5 134 39,5 155	1162 78 1162 87,3	171 45,7 192	83 1427 95,9	3 F 56,1 182 56,1 211	ligh 1743 117 1743 135,9	257 68,6 299	105 1850 121,2	72,8 231 72,8 267	2324 156 2324 181,2	343 91,5 399	2273 127 2273 146,5	89, 27 89, 32
12,5 Liter Slim	CP1 Palet Dimensions: 120*100 Keps per pallet: 100 (5 layers) D-108 Pallet Dimensions: 120*108 Keps per pallet: 135 (5 layers) CP1 Pallet Dimensions: 120*100 Keps per pallet: 80 (4 layers) D-108	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch)	581 39 581 45,3 730	22,8 85 22,8 99 28,7	61 1004 70,6 1302	39,5 134 39,5 155 51,2	1162 78 1162 87,3 1460	171 45,7 192 57,4	83 1427 95,9 1874	3 H 56,1 182 56,1 211 73,7	ligh 1743 117 1743 135,9 2190	257 68,6 299 86,2	105 1850 121,2 2446	72,8 231 72,8 267 96,2	2324 156 2324 181,2 2920	343 91,5 399 117,7	2273 127 2273 146,5	89, 27 89,
12,5 Liter Slim	CP1 Palet Dimensions: 120*100 Kegs per pallet: 100 (5 layers) D-108 Palet Dimensions: 120*108 Kegs per pallet: 115 (5 layers) CP1 Palet Dimensions: 120*100 Kegs per pallet: 80 (4 layers)	Height (mm/ inch) Weight (kg/pound) Height (kg/pound) Height (kg/pound) Height (mm/ inch) Weight (kg/pound)	581 39 581 45,3 730 39	22,8 85 22,8 99 28,7 85	61 1004 70,6 1302 61	39,5 134 39,5 155 51,2 134	1162 78 1162 87,3 1460 78	171 45,7 192 57,4 171	83 1427 95,9 1874 83	3 H 56,1 182 56,1 211 73,7 182	ligh 1743 117 1743 135,9 2190 117	257 68,6 299 86,2 257	105 1850 121,2 2446 105	72,8 231 72,8 267 96,2 231	2324 156 2324 181,2 2920 156	343 91,5 399 117,7 343	2273 127 2273 146,5	89, 27 89, 32
12,5 Liter Slim 20 Liter Slim	CP1 Palet Dimensions: 120*100 Keep per pallet: 120 (5 layers) D-108 Palet Dimensions: 120*108 Keep per pallet: 15 (5 layers) CP1 Pallet Dimensions: 120*108 Pallet Dimensions: 120*108 EURO or CP2	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch)	581 39 581 45,3 730 39 730	22,8 85 22,8 99 28,7 85 28,7	61 1004 70,6 1302 61 1302	39,5 134 39,5 155 51,2 134 51,2	1162 78 1162 87,3 1460 78 1460	171 45,7 192 57,4 171 57,4	83 1427 95,9 1874 83 1874	3 F 56,1 182 56,1 211 73,7 182 73,7	ligh 1743 117 1743 135,9 2190 117 2190	257 68,6 299 86,2 257 86,2	105 1850 121,2 2446 105 2446	72,8 231 72,8 267 96,2 231 96,2	2324 156 2324 181,2 2920 156 2920	343 91,5 399 117,7 343 117,7	2273 127 2273 146,5	89, 27 89, 32
12,5 Liter Slim 20 Liter Slim	CP1 Pallet Unieensions: 120*100 Kreg per pallet: 100 (5 layers) D-108 Pallet Unieensions: 120*100 Kreg per pallet: 115 (5 layers) CP1 Pallet Uniensions: 120*100 Pallet Uniensions: 120*100 Pallet Uniensions: 120*108 Pallet Uniensions: 120*108	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound)	581 39 581 45,3 730 39 730 45,3	22,8 85 22,8 99 28,7 85 28,7 99	61 1004 70,6 1302 61 1302 70,6	39,5 134 39,5 155 51,2 134 51,2 155	1162 78 1162 87,3 1460 78 1460 87,3	171 45,7 192 57,4 171 57,4 192	83 1427 95,9 1874 83 1874 95,9	3 F 56,1 182 56,1 211 73,7 182 73,7 211	Iiigh 1743 117 1743 117 1743 135,9 2190 117 2190 117 2190 135,9	257 68,6 299 86,2 257 86,2 299	105 1850 121,2 2446 105 2446 121,2	72,8 231 72,8 267 96,2 231 96,2 267	2324 156 2324 181,2 2920 156 2920 181,2	343 91,5 399 117,7 343 117,7 399	2273 127 2273 146,5	89, 27, 89, 32: IA
12,5 Liter Slim	CP1 Pallet Unieensions: 120*100 Kreg per pallet: 100 (5 layers) D-108 Pallet Unieensions: 120*100 Kreg per pallet: 15 (5 layers) CP1 Pallet Uniensions: 120*100 Kreg per pallet di (4 layers) Pallet Uniensions: 120*100 Kreg per pallet: 22 (4 layers) EURO or CP2 Pallet Uniensions: 120*10	Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch) Weight (kg/pound) Height (mm/ inch)	581 39 581 45,3 730 39 730 45,3 581	22,8 85 22,8 99 28,7 85 28,7 99 22,8	61 1004 70,6 1302 61 1302 70,6 1004	39,5 134 39,5 155 51,2 134 51,2 155 39,5	1162 78 1162 87,3 1460 78 1460 87,3 1162	171 45,7 192 57,4 171 57,4 192 45,7	83 1427 95,9 1874 83 1874 95,9 1427	3 F 56,1 182 56,1 211 73,7 182 73,7 211 56,1	Initian 1743 117 1743 117 1743 135,9 2190 117 2190 117 135,9 117 2190 117 2190 135,9 1743	257 68,6 299 86,2 257 86,2 299 68,6	105 1850 121,2 2446 105 2446 121,2 1850	72,8 231 72,8 267 96,2 231 96,2 267 72,8	2324 156 2324 181,2 2920 156 2920 181,2 2324	343 91,5 399 117,7 343 117,7 399 91,5	2273 127 2273 146,5 N 2273 2273 81	89,1 279 89,1 322

Exhibit #5



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WAREHOUSE STACKING-FILLED KEGS (Static):

	D KEG				Exhibit	<u>#6</u>		ALLET		ALLET		PALLET		PAL PAL PAL
Keg Type	Pallet Type	Weight/Height				Stackin			ng Layers		_			
	CP1		-	ligh		1	ligh			High			4 High	
	Pallet Dimensions: 120*100	Height (mm/inch)	581	23	1004	40	1162	46	1427	56	1850	-		324
12,5 Liter Slim	Kegs per pallet: 100 (5 layers) D-108	Weight (kg/pound)	289	637	561	1236	578	1274	850	1873	1122	_		156
	Pallet Dimensions: 120*108	Height (mm/inch)	581	23	1004	40	1162	46	1427	56	1850	_	_	324
	Kegs per pallet: 115 (5 layers) CP1	Weight (kg/pound)	333 730	734 29	645 1302	1421 51	665 1460	1466 57	978 1874	2156 74	2446	_		331 920
	Pallet Dimensions: 120*100	Height (mm/inch)	439	29 967	861	1898	878	1935	1874	2866	1722	_		756
20 Liter Slim	Kegs per pallet: 80 (4 layers) D-108	Weight (kg/pound)	730	29	1302	51	1460	57	1300	74	2446	_		920
	Pallet Dimensions: 120*108	Height (mm/inch)	505	1112	990	2183	1460	2225	1874	3296	1980	_	_	920 019
	Kegs per pallet: 92 (4 layers) EURO or CP2	Weight (kg/pound)	505	23	1004	40	1010	46	1495	56	1980	_	_	324
20 Liter Prime	Pallet Dimensions: 120*80	Height (mm/inch)	358	789	701	1545	716	1578	1060	2336	1403	-		433
	Kegs per pallet: 55 (5 layers) EURO or CP2	Weight (kg/pound)	730	29	1302	51	1460	57	1000	74	2446	-	_	+55 920
80 Liter Prime	Pallet Dimensions: 120*80	Height (mm/ inch)	1 /30	25	1302	51	1400	57	10/4	74	2440	, ,	23	520
	Kegs per pallet: 44 (4 layers)	Weight (kg/pound)	412 TAC	907	807 G-FI	1777	824	1815	1219	2686 nam	1613 nic):		57 16	548
TIFI	TRANS	PORT S DNE-WAYKEG T S layer.	TAC	E	G-FI xhibit	LLEI			(Dy		nic):			648
TIFI	TRANS	PORT S DNE-WAYKEG T S layer.	TAC	KIN E	G-FI xhibit	<u>#7</u>		GS	(Dy Stacking 2 Hiu	PALL PALL PALL PALL		PA	iigh	648
TIFI	TRANS	PORT S DNE-WAYKEG DNE-WAYKEG Layer. Pallet Typ Pallet Typ	De 100m: 120*100	KIN E Weight, Height (r	G-FI xhibit	LLE #7	D KE	I004	(Dy b stacking 2 Hig 40	PALL PALL PALL PALL PALL PALL PALL PALL	1ic):	PA	figh 56	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Pallet Type Pallet Dimense		KIN E Weight, Height (r Weight)	G-FI xhibit	LLE #7 1 Hi 581 289	D KE	1004 561	(Dy (Dy Stacking 2 Hi 1236	PALL PALL PALL PALL PALL PALL PALL PALL	46 1274	2 PA	ligh 56 1873	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ	De 0005: 120*100 15: 100 (5 layera) 005: 120*108	KIN E Weight, Height (r Weight (Height (r	G-FI xhibit	LLE #7	D KE	I004	(Dy b stacking 2 Hig 40	PALL PALL PALL PALL PALL PALL PALL PALL	1ic):	PA	figh 56	
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ Pallet Typ	00e 00e 00e:120100	KIN E Weight Height (r Weight (Weight (Weight (G-FI xhibit	LLE #7 1 Hi 581 289 581	D KE	1004 561 1004	(Dy (Dy Stacking 2 Hip 1236 40	2411 2411 2411 2411 2411 2411 2411 2411	46 1274 46	3 H 1427 850 1427	tigh 56 1873 56	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Im CP1 Pallet Type Pallet Dimens Keg per palle Pallet Dimens Keg per palle CP1 Pallet Dimens Keg per palle CP1 Pallet Dimens Keg per palle CP1 Pallet Dimens Keg per palle	De 0005: 120*100 15: 100 (5 layera) 005: 120*108	KIN E Weight, Height (r Weight) Height (r Weight) Height (r	G-FI xhibit (Height mm/inch) kg/pound) nm/inch) mm/inch)	LLE #7 1 Hi 581 289 581 333	D KE	1004 561 1004 645	(Dy (Dy Stacking 2 Hi 1236 40 1421	2411 2411 2411 2411 2411 2411 2411 2411	46 1274 46 1466	3 H 1427 850 1427 978	ligh 56 1873 56 2156	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Im CP1 Pallet Typ Pallet Dimens Pallet Dimens Pall	De 000000000000000000000000000000000000	KIN E Weight Height (r Weight (Weight (Weight (G-FI xhibit (Height mm/inch) kg/pound) mm/inch) kg/pound) mm/inch) kg/pound)	#7 #7 1 Hi 581 289 581 333 730	D KE	1004 561 1004 645 1302	(Dy (Dy Stacking 2 Hi 1236 40 1221 51	PALL PALL PALL PALL PALL PALL PALL PALL	46 1274 46 1466 57	3 H 1427 850 1427 978 1874	tigh 56 1873 56 2156 74	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG DNE-WAYKEG T S layer. Pallet Try Pallet Dimens Kep per palle D-108 Pallet Dimens Kep per palle D-108 Pallet Dimens Kep per palle D-108 Pallet Dimens	De 000: 120*100 01: 120*100 01: 120*100 01: 110 (5 layera) 00: 120*108 01: 115 (5 layera) 00: 120*100	KIN E Weight Height (r Weight (Height (r Weight (Weight (Weight (G-FI xhibit mm/inch kg/pound) mm/inch kg/pound) mm/inch kg/pound) mm/inch	#7 #7 1 Hi 581 289 581 333 730 439	D KE	1004 561 1004 645 1302 861	(Dy (Dy Stacking 2 Hi 1236 40 1221 51 1898	PALL PALL PALL PALL PALL PALL PALL PALL	46 1274 46 1466 57 1935	3 H 1427 850 1427 978 1874 1300	Image: state	648
TIFI	TRANS	PORT S PORT S DNE-WAYKEG T S layer. Iayer. CP1 Pallet Type Pallet Dimens Kegs per palle Pallet Dimens Pallet Dimens	De ins: 120*100 t: 100 (5 layers) ins: 120*108 t: 115 (5 layers) ins: 120*108 t: 80 (4 layers) ins: 120*108 t: 80 (4 layers) Ins: 120*108 t: 80 (4 layers) P2	KIN E Weight Height (Weight (Height (Weight (Height (Weight (Height (Weight (Height (G-FI xhibit mm/inch kg/pound) mm/inch kg/pound) mm/inch kg/pound) mm/inch kg/pound) mm/inch	#7 #7 581 289 581 333 730 439 730	D KE	1004 561 1004 645 1302 861 1302	(Dy (Dy Stacking 2 Hi 40 1236 40 1421 51 1898 51	PALL PALL PALL PALL PALL PALL PALL PALL	46 1274 46 1466 57 1935 57	3 H 1427 850 1427 978 1874 1300 1874	Image: state	

Height (mm/ inch)

Weight (kg/pound)

EURO or CP2

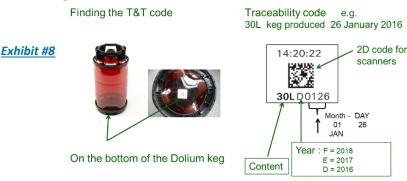
Pallet Dimensions: 120*80 Kegs per pallet: 44 (4 layers)

30 Liter Prime



3.6. Keg filling

- The DOLIUM[®] One-Way Kegs are fully compatible to all filling lines.
- Contact our DOLIUM[®] One-Way Kegs team at: <u>info@dolium.eu</u> for support and detailed filling line set-up specifications.
- For Tracking & Tracing purposes the DOLIUM[®] One-Way Kegs are individually identified by use of a digital 2D data matrix (readable by camera) as well as an analogical *mmdd* + *hh:mm:ss* inkjet print on the keg bottom label (see Exhibit #8):



- The DOLIUM[®] One-Way Kegs are flushed (> 90 %) and pre-pressurized with CO₂ and/or N₂ @ 1,0 bar.
 - Use professional equipment for filling the kegs: the DOLIUM® One-Way Kegs are equipped with standard fitting systems as per customer's request and are fully compatible with existing filling lines, conditional the necessary temperature and pressure settings have been respected, cleaning and steaming facilities are shut-off and the required and legal safety features are present.
 - The DOLIUM[®] One-Way Kegs are supplied in dry and microbial clean conditions. Therefore, no cleaning or disinfection activity is required along the filling cycle.
 - Avoid microbial contamination as it can be cause of beverage spoilage and, when fermenting the remaining extracts, premature burst in extreme conditions.
 - Disinfect the spear heads by spraying with alcohol or a peracetic acid solution for a few minutes prior to filling.
 - Check that the DOLIUM[®] One-Way Kegs are pressurized before filling line entrance.
 - No cleaning or sterilizing cycle allowed:
 - Keep DOLIUM[®] One-Way Kegs away from caustic hydroxides as cleaning agents.
 - Keep DOLIUM[®] One-Way Kegs away from steam or vapor.
 - CO₂ or N₂ flush mandatory prior to filling:
 - All DOLIUM[®] One-Way Kegs have been vented by use of CO₂ or N₂ at assembly to evacuate most of the air and oxygen (O₂) in particular.
 - \circ Flush the kegs thoroughly with CO₂ or N₂ prior to filling.
 - For detailed Safety Instructions on CO₂ or N₂: see CO₂ supplier instructions.
 - DOLIUM® One-Way Kegs filling cycle:
 - Compatible to existing filling lines
 - o Filling speed equal to stainless steelkegs
 - Filling by volumetric control
 - Checking by weight control
 - Avoid overfilling of the keg as it can result into burst at impact
 - Headspace = minimum 2 %

OPERATIONS

USERS



3.7. KEG HANDLING, DISPENSING AND STORAGE AT POINT OF SALES

3.7.1. Handling - manual:

- Do not roll kegs over sharp objects
- Do not throw empty or filledkegs
- Avoid dropping filled kegs:
 - Drop on concrete: < 0,25 m
 - Drop on drop cushion: < 2,5 m

3.7.2. Storage before and after dispensing (not palletized):

- For safety and beverage quality reasons store filled kegs at 0° C < Storage temperature < 35°C.
- For beverage quality reasons store filled kegs at a constant temperature.
- Do not stack unpalletized (closed) filled kegs or (disconnected) empty kegs more than 2 kegs high.

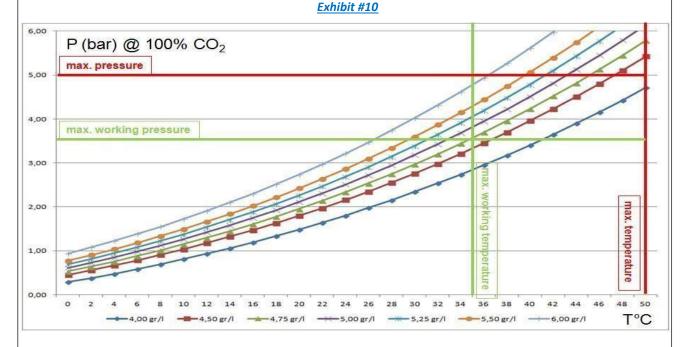
3.7.3. Dispensing:

- Use an appropriate keg connector with adjacent pressure relief valve.
- Use an appropriate CO₂ or N₂ regulator and adjacent pressure relief valve.
- Use food grade CO₂ or N₂ at purity rate > 99,8%.
- Do not stack a connected keg when in dispense mode.

3.7.4. CO₂ pressurized kegs

- Use CO₂ always in well ventilated rooms.
- For detailed safety instructions on CO₂: (see 3.3).
- Do not over-pressurize, working pressure = max. 3,5 bar (see Exhibits #9 and #10).
- Depressurize emptied kegs immediately after use when emptied, by use of the PRV, outside or in a well-ventilated area. For more details: (see 3.3.) Carbon-dioxide and (3.8.) Disposal and recycling.

3.7.5. Pressure Graph- CO₂ Saturation:



	Pressure Table	Dolium THERE IS ONLY ONE WAY
<u>Exhibit #9</u>	Working Pressure	3,5 bar (50 psi)
d):	PRV	4,8 bar (70 psi)
ed	Burst Pressure	>7 bar (>101 psi)

STORAGE 0°C < **T**° < 35°C (32°F) (95°F)

4,8



ALL USERS

3.8. Disposal and recycling

- The DOLIUM[®] One-Way Kegs are for professional purposes only and are not to be re-used for any 2nd life purpose, not even when emptied and/or depressurized, as this might lead to abuse or misuse creating a risk of accidents such as burst or CO₂ release.
- Do not clean, repair, maintain or re-use the DOLIUM[®] One-Way Kegs.
- Depressurize empty kegs to 0 bar. Emptied kegs still have a high residual pressure inside equal to the pressure at draught; it is strongly recommended to depressurize the kegs immediately by use of the PRV, outside or in a well-ventilated area. (see 3.4.)
- After the DOLIUM[®] One-Way Kegs have been emptied and depressurized, disposal of the kegs must be done in an environmentally friendly way.





STEP	ACTION
1	ATTENTION! Read the Handling & Safety Instructions prior to any action or manipulation. For a safe handling and disposal, take care of the instructions below in the right chronological or
2	 Keep away from children Bring the empty kegs outside in open air or in a well ventilated area. Keep the kegs away from direct sunlight. Do not cut or pierce pressurized containers CAUTION! CO₂ hazard! Stay out of the CO₂ blowing stream while venting
3	Depressurise empty kegs with a screw driver by turning the Pressure Relief Valve 90° or use the appropriate keg connector.
4	Remove top + bottom from the body
5	Unclips the spear from the keg neck by use of an appropriate tool
6	Dispose by crushing or shredding the parts into seperated bins or containers: - Keg body: PET - Top + bottom rings: HDPE - Spear tube: LDPE - Spear: PET, TPE, stainless steel springs



ALL USERS

3.9. Complaint Handling

- In the event of an issue or complaint, please send an e-mail to: <u>info@dolium.eu</u> and include the following information for complaint registration:
 - o Customer name
 - o Issue description
 - Keg label information (see section 3.6.)
 - o Pictures of kegs involved in the complaint
- If possible, please keep sample of kegs for examination
- Our **DOLIUM® One-Way Kegs** team will activate the complaint process and contact you.

info@dolium.eu www.dolium.eu www.doliumkegs.com